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WEATHER, p. 2 FRI: 75°F | 53°F SAT: 60°F | 35°F Chance showers SUN: 53°F | 35°F Sunny

Volume 133, Number 19 Friday, April 19, 2013

# MIT OFFICER KILLED, MARATHON BOMBERS RESPONSIBLE

# First death of a night of violence in Cambridge and Watertown; intense manhunt ensued

By Greg Steinbrecher

UPDATED 5:30 A.M. 4/19/13

Yesterday evening, terrible events unfolded on and near MIT's campus. An MIT Police officer, who is still unnamed, was reported shot at 10:48 p.m. near the Stata Center, and was transported to Massachusetts General Hospital where he was pronounced dead.

Shortly after, investigation into an armed carjacking reported along Memorial Drive led west into Watertown, where two suspects attacked police officers with explosives and stolen weapons. As of press time -5:30a.m. - only one suspect has been apprehended; he was shot by police officers and pronounced dead after transport to a local hospital. The other suspect remains at large. Police have secured a perimeter and will resume the search come daylight.

The first tremor of Thursday night's tragedies arrived around 10:25 p.m. when a postdoctoral student working in Building 76 called the MIT Police to report loud noises, possibly gunshots. At 10:31 p.m. the fallen officer was discovered by another MIT officer between the Stata Center and Building 76. By 12:15 a.m. it was confirmed that the officer

As warnings and comfort spread rapidly via social media, the night turned from a single tragedy into a firestorm. Around 12:25 a.m. reports began to arrive that a carjacking victim had been released at 816 Memorial Drive, near the corner with River Street. At press time, connection to the Stata shooting remains unconfirmed.

At 12:45 a.m. explosives were detonated in Watertown, which borders Cambridge to the west. Information over the ensuing hours was chaotic, incomplete, and terrifying. But hopes that the reports were simply overblown, as early reports so often are, faded as police radio confirmed reports of injured officers, a stolen Massachusetts State Police SUV, and the use of long guns and explosives, presumed to have been stolen from the SUV. There were two suspects reported.

By 1:00 a.m., one suspect was in custody and a second was detained. The first suspect had an explosive on his chest that exploded when apprehended. Reports were scattered, with police from MIT, Cambridge, Boston, Brookline, Boston University, the Massachusetts State Police, and others responding to the scene. Several minutes later, fears of more improvised explosive devices led to an



Photo taken at the scene of the fatal shooting of the MIT police officer late yesterday night near 32 Vassar Street.

order to all police officers: Turn off your cell phones immediately. As members of the media arrived on the scene, they were subject to the same requirement. Fortunately, any explosions after this point are reported to have been controlled detonations, not attacks.

Shooting, Page 20



Bombings near Marathon finish A day of celebration for the runners turns tragic as two bombs explode near the finish line on Monday afternoon

By Jessica J. Pourian CONTRIBUTING EDITOR

The following story was completed prior to the events early this morning. At the time of publication, pears that one suspect in the Boston Marathon bombings has been captured. The two suspects were chased to Watertown by police, and one suspect is still on the loose. It is unclear if these events are related to the shooting near the Stata Center. For more information, see our coverage in this

Two bombs went off Monday at 2:50 p.m. near the finish line of the 117th Boston Marathon, killing three people and injuring over 170. The FBI have traced the attacks to two suspects, who were seen by security cameras carrying large bags on Monday afternoon. It is unknown

The blasts came near the end of the marathon, over four hours in, after many runners had passed the finish line. Thousands, however,

Jonathan S. Katz G, who was running in the marathon, was around Cleveland Circle and Boston College when the bomb went off. "I went by mile 23, 24, and 25, all the water stations, all the volunteers, it was business as usual. You couldn't notice anything," he said.

But when he got to Storrow Drive, he ran into a bottleneck.

At first he thought people were just standing in the path of the marathon. "No one said anything," Katz

Lauren D. Lo '13 and Sarah L. Sprague '13, actually heard the explosion. After they finished the race,

whether the plot was domestic or they "heard a really loud thunder clap." Lo initially brushed it off as a construction sound, but when she heard the second one, "we knew something was wrong," she said. As she and Sprague tried to move to-(with which both women are affiliated), they saw people running in the opposite direction.

"Some were crying, others were frantically trying to use their cell phones," Lo recounted. "I stopped a stranger and asked what had happened. She told me that two explosions had gone off by the finish line." Lo and Sprague realized they needed to get home to safety immediately, but as they passed Mass Ave. and Newbury Street, they were startled by a policewoman near an abandoned postal truck scream-

Marathon, Page 11

# Three alerts in wake of bombings

In the wake of the bombings at the Boston Marathon on Monday afternoon, there have been several reports of suspicious packages found on campus. Vice President and Secretary of the Corporation Kirk D. Kolenbrander sent an email to all of MIT campus on Tuesday instructing people to not leave their belongings unattended in public places and to call the MIT Police immediately if they see something suspicious.

In the past three days, three emergency alerts have gone out to campus regarding suspicious packages. The first alert was on Tuesday at approximately 1:03 p.m. regarding a bag left in E51, forcing an evacuation of the building. Several members of the MIT community also received automated phone calls in response to this emergency alert, alongside the standard text messages and email notifications. The second alert went out on Wednesday at approximately 2:32 p.m. about a suspicious package in E38 (MIT Press Bookstore in Kendall Square), again forcing an evacuation. Both incidents were given an all clear less than 15 minutes after the initial alert. At 4:33 a.m. this morning, students received another suspicious package was reported at 500 Memorial Drive (Next House), but was also cleared 20 minutes later.

In an email to the MIT community, Kolenbrander also stressed people to "show great sensitivity in how we discuss who may have been responsible for this act and what might have motivated it."

"President Reif described the notion of 'one MIT' very simply," Kolenbrander said. "I think it bears repetition today: 'We are all in this great enterprise together."

### **IN SHORT**

Wear black today to support the MIT Police officer killed in the line of duty.

Classes are cancelled today. Any absence today will be considered excused.

**Applications for TBP Summer** Service and Engineering Fellowships are now open. Apply

for a chance to earn a service grant of up to \$5000. Applications are due on April 22. Visit http://web.mit.edu/tbp/www/ fellowships.shtml for more

Drop date is next Thursday, April 25th.

Send news information and tips to news@tech.mit.edu.

### **NEW GSC OFFICERS ELECTED**

Newly-elected Graduate Student Council officers to rebrand the GSC.

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# **IAMAMIWHOAMI**

Mysterious musical project originating on Youtube releasing new album.

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Taking a risk. CAMPUS LIFE, p. 8



### MIT COMPETES **IN TRIATHLON**

Club team sends four to compete at Nationals.

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### A RUNNER'S **PERSPECTIVE**

Bonding us together, strengthening our resolve.

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# Investigators look beyond birds for origin of flu strain

BEIJING - China is investigating four possible cases of human-to-human transmission of a deadly bird flu that has killed 17 people, but so far there has been "no sustained" evidence of transmission between people, the World Health Organization said Thursday.

Three families in Shanghai and two children in Beijing were being examined as possible examples of human-to-human transmission, Gregory Hartl, the spokesman for WHO in Geneva, said in a telephone interview.

'Even if two family members are positive, it is not necessarily the case they got it from each other," Hartl said. "They may have gotten it from the same bird."

As investigators looked at the possibility of human transmission, there was mounting concern that the new virus, known as H7N9, may not originate in birds but in other animals and in environmental sources, he said.

To that end, a team of international influenza experts from the agency's headquarters in Geneva and a regional office in Manila and scientists from the U.S. Centers for Disease Control who were invited by China to help investigate the virus, arrived in Beijing Thursday. The experts would be looking at possible sources for the virus other than birds, Hartl said.

–Jane Perlez, The New York Times

# Opponents of Keystone pipeline sound off at Nebraska hearing

GRAND ISLAND, Neb. — Hundreds of people braved heavy snow and wind Thursday, streaming into this central Nebraska town to speak out on the Keystone XL pipeline at what might be the final public hearing on the project.

The hearing, conducted by the State Department, drew hours of emotional testimony, mostly from opponents of Keystone XL, who whooped and applauded when anyone from their ranks spoke, and solemnly hoisted black scarves that read "Pipeline Fighter" during comments by the project's supporters.

The Keystone Export pipeline is not in the national interest, and it is most certainly not in Nebraska's interest," said Ben Gotschall, a young rancher, one of the first speakers at the hearing, which was held in a large events hall at the state fairgrounds.

'Our landowners have been left to fend for themselves against an onslaught of dishonest land agents and corporate bullies." Gotschall said.

Nebraska has been a rallying point for environmental groups, landowners and ranchers who oppose the 1,700-mile proposed pipeline, which would carry diluted bitumen from Canada to the Texas Gulf Coast.

—Dan Frosch, The New York Times

# Cyprus bailout wins easy approval from Germany

BERLIN — Germany's lower house of Parliament approved the bailout package for Cyprus on Thursday, bringing an end to months of debate in Berlin.

Wolfgang Schauble, Germany's finance minister, warned lawmakers before the vote that despite its tiny size Cyprus could still endanger the broader economy of the European Union if its troubles were ignored.

Schauble said that allowing Cyprus to go bankrupt would create a "significant risk" for Greece and other vulnerable countries

As expected, a clear majority — 487 of 602 lawmakers — voted in favor of the package, which includes nine billion euros, or \$11.8 billion, in contributions from European Union members. The International Monetary Fund was to contribute an additional one billion euros.

-Melissa Eddy, The New York Times

# Ruins searched for firefighters after blast

By Manny Fernandez and John Schwartz

THE NEW YORK TIMES

WEST, Texas — Rescue workers searched the rubble of a fertilizer plant Thursday, looking for missing firefighters and survivors of a huge explosion that tore through this small central Texas town Wednesday night, killing as many as 15 people and injuring more than 160 others, laying waste to buildings, and potentially sending toxic fumes into the air, authorities said.

Homes and businesses were leveled in the normally quiet town of West, just north of Waco, and there was widespread destruction in the downtown area, Sgt. W. Patrick Swanton of the Waco Police Department said Thursday.

"At some point this will turn into a recovery operation, but at this point, we are still in search and rescue," he said.

In a second morning news conference, Swanton said the fires were still smoldering at the plant, but "there is nothing out of control over there at this point."

At least five people were killed and scores were being treated at area hospitals, Swanton said, while emphasizing that early estimates of casualties could change. Three to five firefighters were missing, he said, mostly first responders from a volunteer fire department who rushed to the scene before the blast.

"They were actively fighting the fire at the time the explosion occurred," he said.

As many as 75 homes have been damaged, along with several businesses and a 50-unit apartment complex.

"Part of that community is gone," Swanton said.

There was no evidence indicating criminal activity, he said, "but we're not ruling that out."

The White House issued a statement from President Barack Obama that said, "Today our prayers go out to the people of West, Texas," and he pledged that the Federal Emergency Management Agency and other federal agencies would join state and local efforts "to make sure there are no unmet needs as search and rescue and response operations continue."

Gov. Rick Perry of Texas called the explosion "a truly nightmare scenario," and said that information about death and injury is "very preliminary." But he said that because West is so small, "this tragedy has most likely hit every family. It has touched practically everybody in that town."

Obama, he said, had phoned him from Air Force One, on his way to Boston, to offer his support.

The disaster began with a smaller fire at the plant, West Fertilizer, just off Interstate 35, about 20 miles north of Waco. Local volunteer firefighters responded, said U.S. Rep. Bill Flores.

"The fire spread and hit some of these tanks that contain chemicals to treat the fertilizer," Flores said, "and there was an explosion which caused wide damage."

The mayor of West, Tommy Muska, said in brief televised remarks that 50 to 60 houses in a five-block area were heavily damaged, and that search-and-rescue teams worked through the night. A nursing home, with 133 residents was among those hit. The fate of those within it was, like so much on the scene, not immediately clear.

# After defeat, gun bill's backers seek to keep issue alive

By Jeremy W. Peters

THE NEW YORK TIMES

WASHINGTON — The last whimpers of the gun control debate in the Senate played out in anticlimactic fashion on Thursday as lawmakers began the process of formally moving on.

All that remained of a broad package of measures representing the most serious changes to the nation's gun laws in 20 years were two amendments: one that would address mental health care, and another that would penalize states that divulge information about gun owners except under very specific circumstances like a criminal investigation.

Both passed overwhelmingly, the only two gun-related measures to clear the Senate's 60-vote threshold for passage. The vote on the amendments has no practical effect, since the underlying legislation has no immediate prospect of

Despite the push from proponents of stricter gun regulations, the amendments that received the most support in two days of voting were not the ones that tightened restrictions on weapons purchases, but the ones that loosened them.

Fifty-seven senators voted on Wednesday to essentially nullify state laws that prohibit carrying concealed weapons. Fifty-six senators voted to restore gun ownership rights to veterans who have had them taken away.

In the end, only 54 voted for a compromise plan to expand background checks for gun buyers, 46 voted to ban high-capacity magazines, and 40 voted to renew a ban on certain military-style rifles.

While supporters of plans to strengthen the regulation of gun purchases, including Sen. Harry Reid, the majority leader, vowed to keep the issue alive, the growing consensus on Capitol Hill was that any effort to resuscitate the legislation was far away.

Senate Democrats believe that their best option is to put their bill in the procedural equivalent of a deep freeze. Reid is expected to exercise an option that allows him to put the bill in an indefinite hold so he can bring it back up later.

"Make no mistake: this debate is not over," Reid said Thursday. "This is not the end of the fight. Republicans are in an unsustainable position - crosswise with nine out of 10 Americans."

After the series of gun control amendments went down to defeat on Wednesday, Sen. Charles E. Schumer of New York, who played a central role in the early efforts to bring together a bipartisan coalition to support stronger background checks, said he did not see a viable path forward in the near term.

# Warm and windy weather precedes overnight shower

By Vince Agard

STAFF METEOROLOGIST

The same frontal system that spawned several tornadoes in Texas and Oklahoma on Wednesday and brought significant flooding to Chicago yesterday will be approaching our area from the west today. As the cold front draws closer, cloud cover will increase, and a tightening pressure gradient will result in strong southerly winds. These winds will advect warm air from the south, possibly causing the temperature to top the 70 degree mark for only the second time in 2013.

The front will reach the Boston area overnight, causing a strong rain shower or weak thunderstorm in the late night or early morning hours. Afterwards, the wind will shift to be from the northwest, as cooler air fills in behind the front. Temperatures tomorrow will approach 60°F in the afternoon, but will quickly plummet into the 30s Saturday night as the colder air mass moves in. High pressure will take hold on Sunday and Monday, resulting in sunny skies and relatively calm winds with the exception of a possible seabreeze.

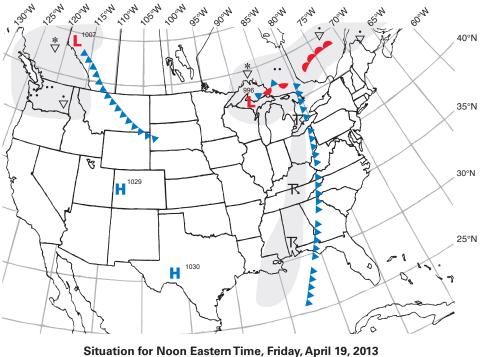
## **Extended Forecast**

Today: Mostly cloudy and windy. High 74°F (23°C). Wind S at 15-25 mph, gusting as high as 30 mph.

Tonight: A strong rain shower around midnight. Low 53°F (12°C). Wind S at 15-25 mph becoming W.

Tomorrow: Partly cloudy and breezy with a morning shower. High 60°F (16°C). Wind NW at 15-20 mph.

Sunday: Sunny, highs in the mid 50s °F (12°C). Monday: Sunny, highs in the mid 50s °F (12°C).



Weather Systems	Weather Fronts	Precipita	tion S	ymbols	Other Symbols		
High Pressure	Trough		Snow *	Rain		Fog	
Low Pressure	Warm Front	Showers	*	$\nabla$	ス	Thunderstorm	
	Cold Front	Moderate	**	••	Com	Haze oiled by MIT	
§ Hurricane	Stationary Front	Heavy	**		Meteorology Staff and The Tech		

# Israeli officials stress readiness for lone strike on Iran

By Isabel Kershner

THE NEW YORK TIMES

JERUSALEM — With Chuck Hagel scheduled to begin his first visit to Israel as secretary of defense on Sunday, Israeli defense and military officials issued explicit warnings this week that Israel was prepared and had the capability to carry out a lone military strike against Iran's nuclear facilities.

Prime Minister Benjamin Netanyahu also spoke of dealing with the Iranian nuclear threat in an interview with the BBC broadcast on Thursday. Israel has "different vulnerabilities and different capabilities" than the United States, he said. "We have to make our own calculations, when we lose the capacity to defend ourselves by ourselves."

Israeli officials have been expressing growing frustration with what they view as ineffective international efforts to halt what Israel and the West see as an Iranian quest for nuclear weapons. Despite economic sanctions and rounds of diplomatic talks, the officials say, the Iranian centrifuges continue to spin.

Yuval Steinitz, Israel's minister of strategic affairs, intelligence, and international relations, said in an interview that Iran was abusing the diplomatic process to further its uranium enrichment program and that it was "high time" for the international community to issue Iran "a deadline or a timetable, or even a military threat"

Iran, according to Steinitz, is

about halfway to reaching the "red line" that Netanyahu drew on a cartoon-like diagram of a bomb before the United Nations last fall, representing the amount of medium-enriched uranium Iran would need to build a bomb. Iran has denied that it intends to build a nuclear weapon and has argued that it needs the enriched uranium for energy and medical uses.

The chief of staff of Iran's armed forces, Maj. Gen. Hassan Firouzabadi, on Thursday dismissed Israel's threats as bluster that should not be taken seriously. Speaking on the sidelines of the Army Day parade in Tehran, he added that the United States, deterred by Iran's military might, would not enter into war with Iran, according to the state-controlled Islamic Republic News Agency.

# US indicts Guinea-Bissau's military chief in drug case

By Adam Nossiter
THE NEW YORK TIMES

DAKAR, Senegal — The head of Guinea-Bissau's armed forces, Gen. Antonio Injai, has been indicted by federal prosecutors in New York on cocaine and weapons-trafficking charges, the U.S. attorney's office in Manhattan said Thursday, part of an ambitious U.S. operation targeting some of the most powerful figures in a country long considered a major haven for drug smuggling.

According to the indictment,

Injai told informants for the U.S. Drug Enforcement Administration, who were posing as rebels with the Revolutionary Armed Forces of Colombia, or FARC, that he was willing to store tons of cocaine and ship it to the United States. He is also accused of agreeing to buy weapons for the FARC, which is designated a terrorist organization by the United States.

Two weeks ago, an ally of his, the former head of Bissau's navy, was indicted on similar drug charges after being arrested in a sting off the coast of West Africa. For years, Guinea-Bissau has been considered one of the world's premier examples of a narco-state, one where the government hierarchy is deeply implicated in the drug trade. But the cases bring those long-standing assertions quite a step further, offering what prosecutors describe as clear evidence of official involvement in trafficking, and aiming to haul senior figures into court.

Unlike the former naval boss, who was lured into a fake meeting on the high seas to be arrested, Injai remains free in Bissau.

# South Korea police say spy service tried to sway election

SEOUL, South Korea — At least two agents from the South Korean National Intelligence Service illegally posted comments online criticizing the political opposition ahead of the December presidential election, the police said on Thursday in an interim report on an investigation into accusations of political meddling.

The police said it remained unclear whether the two agents were part of an operation to influence the Dec. 19 election, as the opposition Democratic United Party claimed. But the findings were a blow to President Park Geun-hye, who had vehemently accused her opposition rival, Moon Jae-in, of a political offensive when his party first made accusations of illegal campaign activities by intelligence agents.

Park, the governing party candidate, won the election by a margin of one million votes.

The case revived long-held suspicions among South Koreans over the role of the National Intelligence Service. The country's former military dictators — including Park's father, the late President Park Chung-hee — had used the agency, once known by its infamous acronym, KCIA, to torture and silence dissidents and influence domestic politics.

After the country democratized in the early 1990s, the agency, which has changed its name a few times, repeatedly vowed not to intervene in politics.

-Choe Sang-Hun, The New York Times

# In developing nations, a contest for improvement

SERRAVAL, France — At a school in a rundown suburb of Dakar, Senegal, the toilets had been out of order for months. The boys urinated against the outside walls, the girls headed behind the building. They had no way to wash their hands.

That changed after the directors of the school turned to a new way to alert the authorities — and their watchdogs — to the problem. Shortly after they did so, the toilets were fixed.

"For us, it's not just to show that there is a capacity in Africa to develop good applications," said Daniel Annerose, chief executive of Manobi, a mobile technology company in Dakar that developed the reporting system.

The system lets teachers, students, or parents report problems with sanitation facilities at more than 2,000 schools across Senegal.

Called mSchool, it is one of three winners of a competition organized by the World Bank to identify promising solutions for a striking discrepancy in access to high and low technologies in developing countries. Six billion of the seven billion people around the world have mobile phones, while only 4.5 billion have access to toilets, according to a recent United Nations report.

—Eric Pfanner, The New York Times

This space donated by The Tech

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# PRESIDENT REIF: DIVEST MIT FROM FOSSIL FUELS

Dear President Reif,

We write you today as a growing coalition of undergraduate and graduate students, faculty, staff, and alumni of the Institute who are gravely concerned about the moral, physical, and financial health of the Institute in the face of catastrophic climate change.

Study after peer-reviewed study has confirmed the dire reality of anthropogenic climate change and the steadily narrowing window of time we have to stop it. In its 2012 World Energy Outlook, the historically conservative International Energy Agency stated that we have only five years to halt the construction of all new fossil fuel infrastructure if we are to avoid being "locked in" to more than 2°C of global warming.

In order to maintain an 80% chance of staying below this 2°C limit, we can afford to generate roughly 565 gigatons of carbon emissions through the burning of fossil fuels by 2050. A recent study from the Carbon Tracker Initiative found that the global fossil fuel industry already owns 2,795 gigatons of carbon in its proven reserves of coal, oil, and gas, each gigaton of which the industry is economically compelled to burn. These reserves represent more than \$20 trillion of assets that are already factored into the net worth of these companies. Allowing the fossil fuel industry to continue business as usual is the one most surefire strategy for ensuring complete climatic collapse.

President Reif, of what use will our degrees be in a world that is 4-6°C warmer than the one we inhabit today—a world that is outside the realm of human experience? Of what use is the continued development of MIT's campus, considering that if global-warming-fueled Hurricane Sandy, representative of a new breed of increasingly frequent and powerful global-warming-fueled storms, had reached Boston, it very likely would have overtopped the Charles River Dam, putting our entire campus, from the Gray House to the MIT Nuclear Research Reactor, under many feet of water?

We want to be part of an MIT that leads the world in stopping this impending crisis before it is too late; an MIT that, in the future, is known to have recognized the existential threat of global warming and to have followed the guidance of its own scientists and engineers in meeting this crisis head-on; an MIT that is at the forefront of rational, bold, effective action on this critical problem facing our society. We are proud of MIT's leadership in renewable energy research and campus sustainability initiatives, but the enormity of this threat and the scale of the response necessary to address it compel us to greater action.

We therefore ask you to take a specific, momentous step toward a better future for MIT and our world.

We call on MIT to immediately freeze any new investment in fossil fuel companies, and to divest its endowment within five years from direct ownership and from any commingled funds that include fossil fuel public equities and corporate bonds.

We believe that through this one action, the Institute would be choosing the path most in keeping with its mission statement and its commitment to "best serve the nation and the world in the 21st century" and to "work wisely, creatively, and effectively for the betterment of humankind" by setting an example for institutions across the globe to follow. We also believe this action to be in the best long-term financial interest of MIT. Our continued investment in the fossil fuel industry can lead to one of two futures: one in which global warming accelerates and the stability of human society is increasingly jeopardized; or one in which the rest of the world takes effective action to combat climate change, leaving those

2,230 gigatons of carbon in the ground and leaving MIT on the wrong side of history, holding onto the ashes and debt of an extinct industry. These are two futures we want no part of. It is unconscionable to finance our education in a way that leaves us no other options. If those 2,230 gigatons of carbon can be abandoned, unburned, we may yet escape the global catastrophe of runaway climate change. It is to work toward this essential result that we have chartered our group, Fossil Free MIT, and it is with this purpose that we will continue to educate and organize the MIT community around the goal of fossil fuel divestment, in the name of a better future for ourselves, for our children, and for MIT.

We hope you will lead us to that future. Sincerely, Fossil Free MIT fossilfree@mit.edu

tinyurl.com/FossilFreeMIT





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# Lessons learned from Monday's tragedy

A runner's perspective

By Sam Shames
STAFF COLUMNIST

Perfectly capturing the sentiment of so many people, the Boston Athletic Association said in their official statement Monday after the Boston Marathon explosions, "What was intended to be a day of joy and celebration quickly became a day in which running a marathon was of little importance." My four friends and I were planning on celebrating completing the marathon together after only two weeks of training. Instead, we ended up celebrating our good fortune: no from our group or family was harmed.

I was amazed by our luck and I was incredibly grateful that the people I cared about had been untouched by this tragedy. It is impossible to go through an experience like this without stopping to reflect. When I did so, I came away with a number of important lessons.

First, times like these bring people together and unite our communities. The number of people who reached out to ev-

eryone in our group to check in on us and make sure that we are okay was reassuring. It reminded us all about the number of people who care about our well-being and who want to help in times of need. The outreach that our friends, family, and communities provided demonstrates how acts of evil only serve to bond us together and strengthen our resolve.

# Times like these bring people together and unite our communities.

Tragedies like these also serve to place everything into perspective by reminding us all of who and what is most important in our lives. It was impossible to feel anything other than blessed to have participated in Monday's race without being harmed. It's far too easy to imagine having run only slightly slower or faster and being in the middle of the blast instead of missing it. Imagining the anguish of those whose loved

ones were injured forces us to acknowledge our blessings.

Another important lesson I took away is the need to trust the judicial system instead of blindly calling for vengeance and retribution. It is only natural to want to avenge lives lost. It is only natural to wish suffering upon those who are responsible. No amount of suffering can match that of the loved ones of those who lost their lives. It is important though that we trust the judicial process to bring those responsible to justice and to appropriately punish them for their crimes.

Being so close to tragedies like this reminds us all of life's fragility. It forces one to acknowledge that life can change in an instant. It made me feel so much more grateful for all the blessings and fortunes that allowed me and my loved ones to escape unharmed. It forces us to step back and think about what is truly important. For all of us, it should be a reminder to count our blessings and to remember that there are always those less fortunate than us who could use our support.



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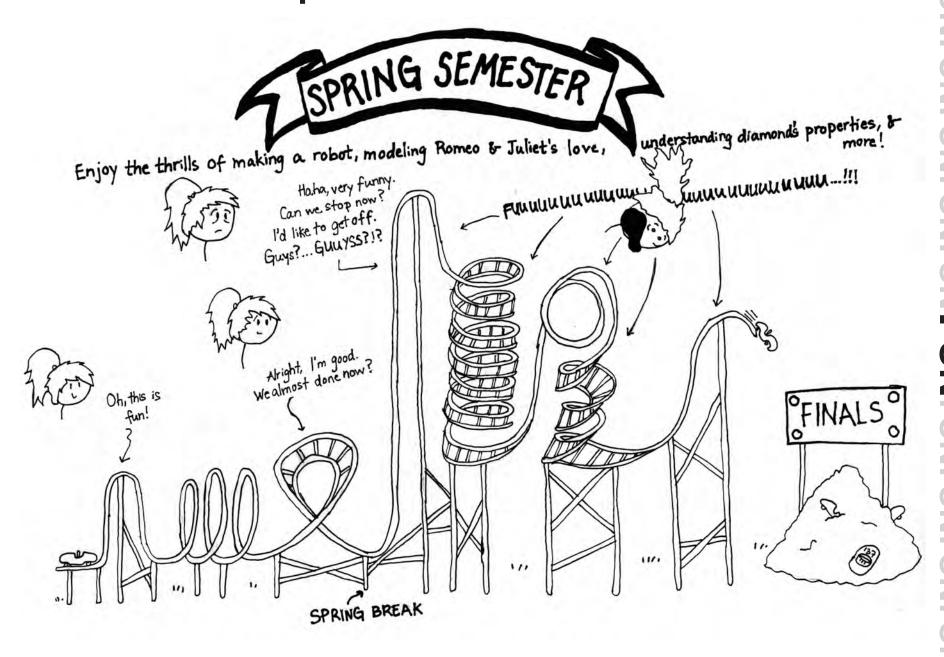
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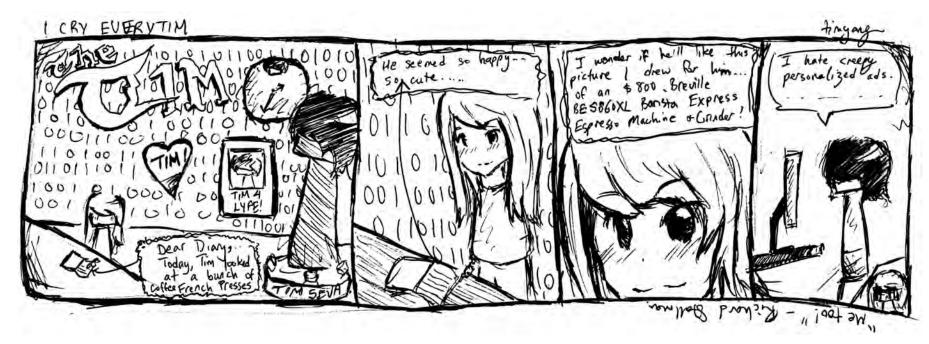
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# UNFUNFUNFUNFUNFUN

# Least Action Principle by Amanda Aparicio





# On Your Own by David W. Cromer

Solution, page 18

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- 5 IRS experts
- 9 Go along
- 14 Syringe, for short
- 15 Optimistic feeling 16 Hunts, with "on"
- 17 SportsCenter network
- 18 Shaving-cream soother
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- 32 Venerable game-show
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- 38 Weather forecast
- 42 Up to, for short
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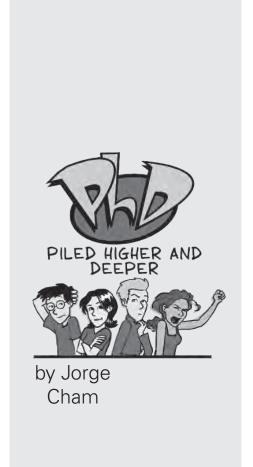
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- 63 Own up to
- 64 Quitting time for many
- 65 To-do
- 66 Lowly workers
- 67 Bank charges
- 68 Rug rats

# **DOWN**

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- 2 Clorox competitor
- 3 Put to use
- 4 Negotiator's success 5 Attack order
- 6 Game with horses 7 Each
- 8 Tarot card dealers

- 9 Seem to be
- 10 Picturesque cave
- 11 Nonpayer's risk
- 12 Beholder
  - 13 Half a figure eight
- 21 Oktoberfest dance 22 Daydreamer's musing
- 26 Ship captain's concern
- 27 Ship captain's concern
- 29 Must acquire
- 30 Ends of some grins
- 31 What collections might collect
- 32 Place to build
- 33 Sale disclaimer
- 34 Rude awakening 36 "Hey, over here!"
- 39 Less exciting
- 40 Doesn't list 41 Diner's reference
- 46 Enter gradually
- 47 Puts forth, as effort
- 49 Stage whispers 51 Employees
- 17 18 19 20 23 25 32 |33 |34 38 42 44 43 45 46 47 52 56 | 57 58 59 62 63 65 64 66 67
- 53 Wound up costing
- 54 "Enough already!"
- 55 2 Down targets 56 Ranch visitor
- 57 Red Muppet
- 58 Pennsylvania port
- 59 Warplane maneuver
- 60 Grammy category





















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# Sudoku

Solution, page 18

1	3		8	2		9		
			1				4	
				7		1	2	
	2				8		3	1
		8		6		2		
9	4		2				8	
	7	4		3				
	9				5			
		1		8	2		7	4

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

# **Techdoku**

Solution, page 18

60×	: : : : : :			12×	
15×		360×		2×	
48×	1			9+	
	24×		4–		3
6×		12×		20×	30×
	1		2		

FRIDAY, APRIL 19, 2013 THE TECH 7

**SCIENTIFIC IMAGE** 

# Changing the face of the nuclear engineer

MIT hosts over 600 nuclear science students and professionals for conference



Attendees of the 2013 American Nuclear Society Student Conference

### **By Samuel Brinton**

Students of nuclear science and technology learned from experts in the field, presented their unique research, and captured on video what it means to be a nuclear scientist or nuclear engineer last week at the 2013 American Nuclear Society Student Conference. The first ever "I'm a Nuke" videos will be featuring nuclear science and technology students from across the world who participated in the conference hosted by the Massachusetts Institute of Technology Student Section of the American Nuclear Society.

The conference theme was the Public Image of the Nuclear Engineer. This was based on the conflicting views of the nuclear industry which many continue to hold. Although nuclear energy is safe, clean, and reliable, it has many obstacles in convincing the public of its successes. Our Theme Director, Mark Reed, interviewed and filmed conference attendees to create the "I'm a Nuke" videos. We captured the many faces of nuclear professionals to show that they are a diverse group all working to

leverage the benefits society can realize from nuclear science. We plan to post the video on social media sites as well as share it throughout different media avenues in hopes of bringing a new generation of great ideas and great passion to the country.

# Student presentations and posters highlighted the global nature of the nuclear science field.

The conference was led by three Co-Chairs: Nathan A. Gibson G, Ekaterina D. Paramonova '13, and myself, with many amazing volunteers from the Nuclear Science and Engineering Department helping to make one of the largest and most professional student conferences for students in nuclear science and engineering a success.

Planning began one year ago at the 2012 ANS Student Conference and brought many

interesting challenges and learning opportunities which don't always get taught in a classroom. For example, planning a boat cruise for 500 people is not taught at 9:30 a.m. in Neutron Interactions, but it may be just as difficult to track down the caterer to get food served as it is to track down a scat-

Commissioner George Apostolakis, Ph.D., of the U.S. Nuclear Regulatory Commission (NRC) served as the conference keynote speaker. "The theme for this year's ANS Student Conference will be an interesting topic to explore," stated Apostolakis in his remarks preceding the conference. "I plan to speak about my views on what shapes the public's image, to provide some insights about how the NRC tries to engender public confidence in our work, and to offer my thoughts on how to shape the public image of nuclear engineers in the future."

Students at the conference had access to the latest nuclear developments from industry, research, and academia. A team of nuclear engineers from Argonne National Laboratory presented a workshop

on Generation IV fast reactors. They presented the physics behind fast reactors, which can use up the hazardous waste created from commercial (water-cooled) reactors as fuel. "Fast reactors also extract about 100 times more energy from each pound of uranium and provide a large improvement in safety," commented Roger Blomquist, a Principle Nuclear Engineer at Argonne National Laboratory.

Students presented 171 podium presentations and 65 posters, which set new records for American Nuclear Society student conferences. These presentations also highlighted the global nature of the field with 88 registrants with international citizenship. Whether it was students studying law, nuclear medicine, quantum physics, computer science, or thermodynamics, the variety of backgrounds were united in bringing the conversations of nuclear science and engineering to new heights. With continued conversation, the nuclear science and engineering students at MIT and across the country will continue to improve the public image of the nuclear engineer.

# THE SECRET LIFE OF RESEARCHERS

# **Chasing salt**

# Observing upper ocean turbulence

# By Alec Bogdanoff

Gripping the desk as waves rock the shin back and forth, it is occasionally hard to sit upright at sea, let alone walk about the ship. I have strapped my chair to my desk with a bungee cord to keep me from sliding across the lab. A few minutes ago a large wave washed across the stern of the ship and sent salt water into the lab. Some of our equipment got wet, but nothing too bad.

# As an observational physical oceanographer, going to sea is part of life — a part that I love tremendously.

The days are long and the work is challenging, but watching the sunrise across a clear blue sky with nothing in sight makes all of this worth it. As an observational physical oceanographer, going to sea is part of life, and a part that I love tremendously. Leaving port, working far away from land, and knowing that everything you need is on the ship with you provides a feeling of joy and sense of fulfillment surpassed by little else I do in life.

I am currently on the R/V Endeavor, op- well as over land. Changes over the ocean erated by the University of Rhode Island, for will impact the entire cycle, including the very small scales, on the order of centimethe second of three HS cruises which are part of the Salinity Processes in the Upper Ocean Regional Study, or SPURS. The first SPURS cruise was on the R/V Knorr, operated by the Woods Hole Oceanographic Institution (WHOI), and took place in September and October 2012. That cruise was 34 days long, starting in Woods Hole, MA and ending in the Azores. The second cruise is 31 days, starting and ending in Narragansett, RI. On both cruises we steamed nearly eight days to the salinity maximum of the North Atlantic to find the saltiest ocean water in the world.

The project, funded by the National Science Foundation and NASA, hopes to answer questions specifically about salinity in the upper ocean, in conjunction with the Aquarius-SAC/D satellite that infers sea surface salinity from space. The data we collect provides in situ salinity observations to compare with the satellite observations. In a world with a changing climate, precipitation patterns are expected to change, causing wetter areas to become more wet and drier areas to become more dry. Understanding upper ocean salinity processes will unlock secrets of how changing climate may impact the water cycle, both over the ocean, where the majority of it occurs, as

water we drink on a daily basis.

# Changes over the ocean will impact the entire cycle, including the water we drink on a daily basis.

Although my research does not directly look at the salinity process, it does focus on the physical processes that affect salinity in the upper ocean. As a physical oceanography student in the MIT-WHOI Joint Program for Oceanography, my research focuses on the stably stratified upper ocean. Just as oil floats on water, when the sun heats the upper ocean, a fairly thin stable layer floats atop the ocean. Depending on weather conditions such as low wind speeds and high incoming solar radiation, the upper ocean can warm and cool several degrees on a daily basis. At the surface of the ocean, heat and moisture are transferred between the atmosphere and ocean. Understanding the details of the physics in the upper ocean is fundamental to understanding how the sea and air interact.

In order to observe the upper ocean at ters to meters, we are using special instru ments that make measurements over 500 times each second. One type, called a Vertical Microstructure Profiler (VMP), is tethered with a wire and released over the stern of the ship. The VMP allows us to record a time series of measurements in one place by continuously releasing the instrument and bringing it back to the surface. The second type we use is a small package attached to autonomous Slocum gliders. The gliders use buoyancy to maneuver around the ocean for up to a few weeks at a time. This data is used to tell us how the ocean mixes, and more specifically what processes cause

Although being at sea can be quite a bit of work, it is nice to take time to reflect on the beauty of nature when time allows. My favorite days at sea are when the wind is calm enough to create seas so flat that the clouds reflect in the ocean. Although I must admit, it is not just because it creates a beautiful sight, but also because on those days the ocean warms the most, creating a stable boundary layer.

Alec Bogdanoff G is a physical oceanography graduate student in the Department of Earth, Atmospheric, and Planetary

MPUS LIFE CAMPUS

**■ ASK A-THEIST** 

# Why claim one religious authority?

By Aaron Scheinberg and Stephanie Lam

Ask A-theist is a column by Aaron Scheinberg G, an atheist, and Stephanie Lam G, a Christian, which uses contrasting worldviews to explore questions and misconceptions about philosophy and religion. This week, Aaron chose the question. Send us the burning questions you have always wanted answered by an atheist or Christian (or both), and we'll tackle them!

# Q: Why think the Bible is more true than the Quran, Vedas, or Iliad?

### Stephanie's answer:

Every religion offers a characterization of God and reality. To the extent that we can, we should test their claims. Different religions and different religious texts have very different answers. God, if he or it existed, might be a person outside creation, like in Islam or Christianity, or God might be an abstract essence that makes up all of the universe, like in Hinduism, but God cannot logically be both. Truth is exclusive in a way that fantasy is not. We can argue about whether fairies need wings to fly, but there is no truth if fairies don't exist.

Let's look at one factual claim. Unlike Mohammed or Siddhartha Gautama or even Homer, Jesus Christ claimed not only to be an enlightened teacher, prophet or storyteller, but God himself. From non-Biblical ancient texts outside Christianity, scholars agree that a man named Jesus existed and was killed by crucifixion in the first century CE. We have explicit eyewitness testimony in the four Biblical books that discuss the life of Jesus. In them, we see an extremely unflattering view of his disciples as cowardly, petty, and constantly confused. At the death of their teacher, they scattered. Yet, within two months, we see

a transformation in these men as they go out and boldly preach the message of their teacher as the resurrected Lord at great risk. All but one would give their lives for the message. Would someone knowingly give their life for a lie?

It is too simple to dismiss it all as myth. As Pastor Tim Keller notes, anyone looking honestly at history has to ask, "No group of Jews ever worshipped a human being as God. What led them to do it? Jews did not believe in divine men or individual resurrections. What changed their worldview virtually overnight? How do you account for the hundreds of eyewitnesses to the resurrection who lived on for decades and publicly maintained their testimony, eventually giving their lives for their belief?"

As we evaluate the respective claims of each faith, we cannot solely compare which life philosophies or moralities resonate with us. Either Jesus was God as he claimed or he was not. Either Jesus was crucified, died, and resurrected as Christianity claims, or never died in the first place as Islam claims. We have to look at the evidence and draw our conclusions. Both cannot be simultaneously

### Aaron's reply to Stephanie:

I once met a follower of an Indian mystic healer and philanthropist named Sai Baba. The follower described the miracles he personally witnessed and expounded with yearning on the incomparable bliss and love he experienced in Sai Baba's presence. He and his comrades confidently believed Sai Baba was a god.

Cult members fervently believe they've witnessed supernatural events, and their reports are often consistent with each other. The same goes for UFO abductees. Maybe it's social pressure. Maybe they just really want to believe. Regardless, we typically dismiss their unfounded stories offhand. So why are stories from millennia-old writing more believable?

The four gospels were composed by unknown authors — the names were appended in later copies. The earliest, "Mark," was written 30–40 years after Jesus's supposed death. Can an impartial investigator ever call anonymous writing "eyewitness testimony"? Mark, from whom the others borrow, doesn't even claim to be. He's likely just recording local oral tradition. We cannot evaluate the motives, biases, methods, or character of unidentified authors writing decades after events, so their claims have zero credibility.

That pastor's arguments apply to anything. If Jews becoming Christians proves

Christianity, surely conversions to Scientology prove Scientology! And martyrdom isn't unique to Christianity. There are Muslim martyrs, secular martyrs, suicidal cults, etc. Dying for a belief doesn't make it more true.

It's presumptuous to confidently dismiss all other religions on these underwhelming grounds. I find the testimony of Sai Baba's followers at least as compelling. Indeed, if the Bible passes the threshold for reliability, then I have a slam-dunk case that witches once roamed New England.

We can't honestly distinguish between the various supernatural claims floating around. Acknowledging that fact might make you skeptical, but doesn't necessarily render your religion meaningless: one can value traditions no matter what their ultimate origin, and if you like the life philosophy outlined in a certain text then by all means study it.

The trouble arises when we lose perspective — when certainty in our favorite unreasoned claim prevents us from rethinking moral opinions shown to be harmful. When we can't see the damage a religion imparts on outsiders and many of its own members. When politicians manipulate that blind spot. By moving beyond superstition, we can better protect ourselves from those dangers while still appreciating tradition.

# **EVENTS**

# **APR. 16 – APR. 22**

### **TUESDAY**

(4:00 p.m. – 7:00 p.m.) MISTI Foreign Film Night: *Jiro Dreams of Sushi* — E25-111

(9:00 p.m. – 11:00 p.m.) Video Game Tournament with Bubble Tea — Sidney-Pacific

# **WEDNESDAY**

(4:30 p.m. – 5:30 p.m.) SSRC Seminar: Industrial Farm Animal Production in America — E25-111

(6:00 p.m. – 8:00 p.m.) What High School Science Should Have Been — MIT Museum

(7:00 p.m. - 8:30 p.m.) The Future of Print in the Digital Age — 6-120

# **THURSDAY**

(5:00 p.m. – 7:00 p.m.) CMS Colloquium Series: Size Is Only Half the Story: Valuing the Dimensionality of BIG DATA — 4-231

(6:00 p.m. – 8:00 p.m.) Non-Monosexuality: Beyond the Basics, dinner provided — 5-134

# **FRIDAY**

(8:00 p.m. – 9:00 p.m.) Piano Recital by Alan Feinberg, Guest Pianist in Residence and American music specialist — Kresge Auditorium

(8:00 p.m. – 10:00 p.m.) The Wedding Singer, opening night — Kresge Little Theater

# **SATURDAY**

(7:00 p.m. – 10:00 p.m.) The Festival of Bad Ad-Hoc Hypotheses (BAH!), hosted by Zach Weinersmith of SMBC, the SMBC and xkcd publishers, and the LSC — 26-100

# SUNDAY

(4:00 p.m. – 5:00 p.m.) MITHAS presents Leela Samson and Bragha Bessell, Bharatanatyam Dance — 14W-111

### MONDAY

(4:00 p.m. – 5:30 p.m.) A Tale of Three Laboratories: Rabies Vaccination and the Pasteurization of New York City, 1885-1920 — E51-095

(8:30 p.m. – 10:30 p.m.) For the Bible Tells Me So Screening — 4-145  $\,$ 

Send your campus events to events@tech.mit.edu.

# IT'S ALL GREEK TO ME

# Leaping into the unknown

# Encouragement from sisters to explore new things

By Tanya Liu

"JUST DO IT!" rang the screeches from far off in the distance. As I teetered over the edge of the stone cliff and peered out at the water below, I could see the jagged outlines of the sharp rocks lurking below the surface. I wasn't very keen on getting too friendly with those rocks, and their closeness did little to appease the nervous, bubbling feeling in my stomach.

"JUST. JUMP. NOW!"

The yells from my fellow Pi Phis were getting more and more impatient. I sighed, clutched at the frayed rope swing in a death grip, then pushed off and swooped out into the unknown.

All my time spent wavering on the edge of the cliff resulted in me spectacularly flailing throughout the entire swing, losing my grip on the rope, and then flopping ungracefully into the water below. The whole rope swing + cliff + swimming hole adventure looks fantastic when other people are doing it. I remember feeling antsy while waiting in line for my turn, and happily envisioning what type of cannonball I would do for my grand entrance into the water.

What I couldn't imagine until I climbed up the side of the cliff, however, was the feeling of unexpected fear that took over me. I felt incredibly far away from everyone at that instant, with my closest companions being the sharp rocks waiting to catch me under the water. The yells of my sisters were what snapped me out of my daze, and gave me the extra push I needed to jump away from safety.

My cliff jumping escapade took place in the El Yunque National Forest in Puerto Rico this past spring break. Two spring breaks ago, I was still just a freshman. My freshman year at MIT passed by in a blur. I was stuck in a comfort zone of what I was used to from high school, so other than playing violin, cooking for myself, and hanging out with my floormates, I didn't do much outside of schoolwork. I desperately missed my friends and family back home in Iowa, and I saw each holiday as an opportunity to enjoy precious time away from MIT. At the end of a glorious summer break, it seemed almost cruel that I would have to go back to MIT. I tried to

think about things that I would have to look forward to, but other than seeing a few friends, I came up sadly short.

The start of sophomore year passed by much the same way freshman year did. I was stuck in the same routine of school, food, and violin. I felt as though I had missed my opportunity to join different clubs my freshman year, and it was too late for me now. While others had explored and found new activities that they were interested in, I had shrunk back and reinforced my shell of familiarity.

In the spring, however, a new, unexpected opportunity presented itself. One of my friends all the way back from middle school, Amanda Evans '14, approached me about an informal recruitment opportunity with Pi Beta Phi. Before then, I had never given sorority life much of a second thought. I probably wouldn't have been able to name all five sororities if asked, and sorority life existed well outside the range of my comfort zone. My initial thoughts really mostly consisted of "free food" and "more free food" (they had some awesome tacos), and even as I went to more and more events, I still had no serious intention of joining.

I have a tendency to be a very complacent person. I am neither proactive nor aggressive when it comes to pursuing things that I want, and I see that as one of my weaknesses to be worked on. After receiving my bid, I stared at the small slip of paper and thought about all the opportunities that had slipped through my fingers, all the mailing lists I had signed up for in a spurt of enthusiasm but never followed through with, and the very possible monotony of my remaining two years at MIT if I didn't finally take a risk and put myself out there.

So, I surprised myself and joined a sorority. I'm trying this new thing now where I don't sit back anymore and wait for things to come to me. Every new experience I've had through Pi Phi has reinforced my resolve that to grow as a person, I have to actively put myself in unfamiliar situations. Familiarity only creates expected outcomes, whereas some of my best memories have come from exploring the unknown.

Are you a font fien $\delta$ ? Do you like making presentations SHINE?

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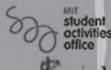
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FRIDAY, APRIL 19, 2013 THE TECH 11

# Explosions spell tragedy on Marathon Monday Two possible suspects identified; pressure cooker bombs leave three dead, many injured



On Thursday, the FBI released images of two suspects involved in the Boston Marathon bombings that occurred on Monday. Two bombs exploded near the finish line of the Boston Marathon, killing three people and injuring over a hundred people.

Marathon, from Page 1

ing, "GET AWAY FROM THE VAN. EVERYONE PLEASE MOVE AND AWAY FROM THE VAN."

"All I remember was running for dear life in the opposite direction and screaming at everyone to get away," Lo said. It took the two an hour to get home, but they made it safely.

### The bombs

In the pictures released by the

FBI yesterday evening, Suspect No. 1 wears a dark hat, and Suspect No. 2 a white hat. FBI have identified Suspect No. 2 planting a bomb within minutes of it going off, said Special Agent Richard DesLauriers, who is in charge of the Boston FBI office. Afterwards, Suspect No. 2 went west on Boylston, while it is unclear where suspect No. 1 went. A video is available on the Boston Globe, and the authorities plan to release more images soon.

The bomb sites were closed to the public in the days following the explosion. As of Thursday night, a 10-block area in Back Bay remained closed. Boylston is still closed, as are side streets between Newbury Street and Huntington Avenue.

Contrary to reports on Wednesday afternoon, no suspect has been arrested for the marathon bombings. Spectators and journalists who gathered at the Moakley courthouse on Wednesday to wait for a possible arraignment of a suspect in the bombing were evacuated after a bomb threat on the building. Federal officials confirmed no arrest had been made.

According to police reports, the suspects were carrying large, black nylon backpacks with the explosives inside. The FBI believes the explosives were pressure cookers stuffed with explosives, ball bearings, and

President Obama visited Boston yesterday afternoon to attend the memorial service for the victims at the Cathedral of the Holy Cross. He spent the day at Massachusetts General Hospital visiting families. Michelle Obama is expected to make the same rounds as well.

The president signed an emergency declaration for Massachusetts on Wednesday afternoon so that federal aid could assist with local

In a statement on Monday, Obama swore that "Any responsible individuals, any responsible groups will feel the full weight of justice."

### Casualties

The three dead include eightyear-old Martin Richard of Boston, Krystle Campbell, 29, of Arlington, and Lingzi Lu, a Boston University graduate student. The Boston Globe reported that 14 people have lost their limbs, and many others have severe injuries. As of Wednesday night, 62 people remained in the hospital, and 12 were in critical

Authorities are urging citizens who know anything about the suspects to assist in the investigation. The FBI can be reached by 1-800-CALL-FBI or by email at boston@ic.fbi.gov.

On Facebook, the Boston Police Department posted, "No tip is too small or insignificant. Help us locate and identify these individuals. Any and all information is encouraged and appreciated." People are encouraged to submit photos, videos, and other information to

"The person who did this is someone's friend, neighbor, coworker, or relative," said DesLauriers in a press conference Tuesday afternoon. "Cooperation from the community will play a crucial role in this investigation."

DesLauriers also emphasized that investigators were looking to speak with anyone who was in

front of the Forum restaurant on Monday afternoon, the site of one of the explosions.

### **Effect on students**

Several students from local universities were injured on Monday, reported the Boston Globe. There were three from Tufts University, seven from Emerson College, three from Northeastern University, two from Berklee College of Music, and one from Boston University.

While no MIT students, faculty, or staff were physically hurt in the blast, the explosions had deep repercussions in the community. See The Tech's story on page 12 for details of MIT's response.

In an email to all of MIT on Monday evening, President L. Rafael Reif reminded the community that "times like these require that we stay together and take care of each other."

According the Boston Marathon's website, the marathon is the oldest annual marathon in the world. Supporters are already rallying for next year, and more people are hoping to enter the race. During his speech yesterday, Obama bet that next year's marathon would be even larger."We've had 116 years of incident-free marathon," reminded Thomas Menino, Boston's mayor, on Tuesday. "This is a painful and tragic lesson... but next year's marathon will be bigger and better."

Joanna Kao contributed reporting to this article.



# MIT runners write about their marathon experiences

### Masashi Hirose G

(2nd year in Boston Marathon)

Training and the race: I started to train for the marathon when I came to Boston in 2009. I was a member of the track and field club and ran mainly 1500m in junior high school and high school in Japan. I regularly join races such as 5k, 10K, half marathon and team relay with friends. The daily training is to run 5-8 miles along Charles River or Fresh Pond about four times a week.

On the explosion: Except this disastrous event, the conditions of the Boston marathon this year, such as weather, temperature and wellorganized logistics, were perfect. I am really sorry that this tragic event jeopardized all the efforts and hopes of runners and supporters. This tragedy happened just a few meters before the goal, which is the crowning moment for runners to pass. It must be really hard for runners who feel almost relieved from the pain accumulating over 26.2 miles to respond to this abrupt event rationally.

### Megan Ellis Bonney G

(1st year in Boston Marathon)

Training and the race: I started training specifically for this race in January though I run year round. I had a wonderful experience at the marathon today. I got to be in community with so many other talented runners, feel the power of the Wellesley scream tunnel, and test myself on the Newton Hills. I managed to run a minute faster than my previous best time, which I was happy with as well. Overall, the race was challenging but inspiring and fun... everything I hoped Boston would

On the explosion: When the blast went off I had started walking with my parents and brother on Boston Common. We heard the two loud blasts. My mother was quite con-I also thought it was odd, but chalked it up to some sort of Patriots Day celebration. We then went to the T at Park Street and headed back to Kendall. When we arrived in Kendall and got a call that it was a bomb, I was extremely upset — I still had teammates and friends at the race. The whole experience still feels surreal. I can't believe that a place that is such a symbol of triumph became

# Felix Moser G

(3rd year in Boston Marathon)

Training and the race: I usually train 3 months leading up to a race. Today's race was my personal best. I ran 2:34:18, almost 10 minutes off my previous personal record, good enough for 128th overall. It's been a long-time goal of mine to break 2:40, and to do that at Boston was amazing. A lot of friends from MIT came out and cheered for me, too, which also meant a lot to me. The Boston Marathon is my favorite race. The logistics are handled with sublime professionalism, the crowd support is unparalleled, the volunteers are amazing, and heck, it's Boston!

On the explosion: I passed through the finish line at around 12:35, so well before the explosions. I was home at Sidney-Pacific when it happened. One of my labmates called me to ask if I was alright; that's how I found out. My immediate thoughts were of the friendly faces of the volunteers at the finish line and how I hoped nobody was hurt. I've been following the events throughout the day online. The pictures and videos are horrific. I recognize so many details of that scene. The finish line. The dense, cheering crowd. The gold-jacketed volunteers. The Marathon Sports storefront (I usually buy my shoes from there). The line of flags they routed us by. I probably passed within a few meters of that first bomb. It seems mostly spectators were hurt. I think of my friends cheering in the crowd and shudder at the thought that they could have been there. I spent most of the day angry, wishing I could do more than read news sites. This was very personal. Runners are a big family, and this happened to all of us. We're all hurting today. But especially, my heart goes out to the victims and their families. I read that one of the dead is an 8 year-old child.

I was also impressed by the outpouring of support from the community in helping the stranded runners, who were unable to retrieve their belongings, catch their flights, return to their hotels, etc. Within hours, a website had gone up containing information of thousands who had volunteered to host stranded runners. And that's only a vignette of the support the community rallied.

# Ranbel Sun

(1st year in Boston Marathon)

Training and the race: This was oston Marathon, and despite having bricks for legs during the last couple of miles, I was grinning like a madcat during the run. I only started running less than 3 years ago when I decided to check off a bucket list item and do a marathon. After that experience, the thought of qualifying for Boston ("running a BQ") latched onto my mind. To qualify, you have to run a sanctioned marathon in a required time based on age and gender. The BQ training process was more mentally grueling than any exam, and crossing the finish line in the required time was comparable to receiving the MIT admissions tube. Thus, to me, the Boston Marathon was much more than a 26.2-mile run: it was the reward for months of sweat and discipline. My training for Boston was less intense — I started prepping in January and ran an average of 30 miles per week. My goal on Monday was to have fun, and the energy of the crowds went above and beyond my expectations.

On the explosion: I crossed

the finish line around 2 p.m. and hobbled over to a grassy area a few blocks away to take a break. I heard what sounded like a blast of cannon fire and dismissed it as a traditional celebratory salute. A few minutes later, I started getting texts asking "I heard about the marathon. Are you okay?" It seemed a bit strange that people were concerned for my well-being rather than giving the typical congratulatory I did not have internet access and my phone reception was terrible, so I didn't know what was going on. Then I heard people around me talking about a possible gas explosion. It seemed so random that I shrugged it off as a minor incident. I did not hear the supposed second explosion. Eventually, through my post-marathon exhausted haze, I connected the explosions to the "Are you okay" messages and started getting a sense that something more serious had happened. The malicious and devastating nature of the event only really hit me when a shocked pedestrian stopped me on the street rambling about bombs, casualties, and limbs being blown off.

Now, I don't feel like someone who ran Boston but rather someone who survived a terror attack. It seems unfair to the victims to bask in the glow of my dream marathon. However, it was certainly an experience I'll never forget, and it has not affected my desire to participate in

The Green Building at MIT was lit with the pattern of the American Flag on the night of April 15, 2013.

# After Marathon tragedy, outpour of support from MIT

# Community raises over \$110,000 for recovery, gathers for memorial to honor first responders

by Joanna Kao CONTRIBUTING EDITOR

Monday's marathon bombings took a heavy emotional toll on MIT. While no students or faculty at MIT were physically injured at by the attack, the stories that have since emerged show that the bombings have still deeply hurt many in the MIT community. But through the tragedy, we've seen the Institute's strength through stories of inspiration, hope, and community.

Peterson create a website so that people who wanted to help the Richard family could have a way to donate money to the family.

"The Richards had not asked for they could help the Richards," Peterson said. "There's nothing that people can do or give that will bring Martin back, but there are things that people can do or help the rest of the family make sure that they don't have other things to worry about, that they can help smooth

In less than 90 minutes, they raised nearly \$12,000. As of press time today, they have raised over \$47,500 for Martin Richard, the 8-year-old killed by the explosion on Monday.

Many from MIT were friends, sons, or neighbors of the victims of the explosion that killed three people and injured over 170. Others rushed to the scene in the face of danger or opened up their homes to strangers in need. Since Monday, the community has pulled together to support victims in significant, meaningful, and varied

### "Anything we can do to make your life easier?'

In the past two days, the community has gathered to support two of its own Richard T. Whalley, whose parents are both in the ICU, and Chris Peterson G. a close friend of Martin Richard, the 8-year-old who was killed by the explosion on Monday.

Peterson found immediate support from his classmates, colleagues, and administrators. "I was immediately contacted by someone from the Office of the Dean of Graduate Education and by faculty members and administrators, who were basically like, what do you need, do you need anything, is there anything we can do to make your life easier. And that's been really wonderful," Peterson said. "The administrative support thus far has been really terrific. And the community support from my classmates and colleagues has been terrific. And made what would be otherwise a hard time somewhat

When Peterson's friends and colleagues at the Center for Civic Media found out about the death and Peterson's relationship with it, they helped

what is going to be a long, hard road for the family.'

Peterson sent an email to a circle of friends shortly before 11 a.m. yesterday, and in less than 90 minutes, they raised nearly \$12,000. As of press time today, they have raised over \$47,500.

"It's more important that you give than to whom you give. But if you were struck by [Richard's] story, if you want to help, you can go and donate. And the most important thing is that you remember what Martin wrote on that poster that everyone's seen, which is just to stop hurting people. Because that would be the best way to remember him," Peterson said.

### "Really, really incredible to see strangers who don't necessarily know the Whalley family directly but feel the need to be helping out."

Richard T. Whalley '10 was at work in Cambridge when the explosion went off. He tried to reach his parents who had gone to watch the marathon, but he wasn't able to get a hold of them. Later, his brother showed him a photo on Reddit — he had found their dad. Their father was covered in blood and in a wheelchair

Whalley started calling area hospitals to find his parents. But because of registration errors, he wasn't able to find them right away. After posting about his situation on Facebook, ten friends helped call hospitals to track his parents down. Both of Whalley's parents suffered serious injuries and are now in the ICU.

E. White '10 and Media Lab research assistant Prayeen Subramani '10, wanted to help Whalley and his family in a more long-term way. They launched help, but a lot of people had asked how a GiveForward campaign Wednesday morning, and by press time today, they raised over \$64,000 from over 1300

"It's amazing, and to be honest, I didn't expect it to pull together quite like it has. I was very lucky to be not only part of the MIT community, but this group called the Startup Leadership Program," Whalley said. "They acted and organized this on a short time scale and promoted it via Facebook and the Internet and other media.

Even though it was obvious that Whalley was hurting, one of the first things he said was that he wanted to encourage MIT students to help other victims and their families. White said that he and Subramani are working to find a way to channel extra money to others in need and that anything left over will be given to funds for other

# About 400 people gathered on Kresge Oval to reflect on the Boston Marathon and sign posters for the first responders and hospitals in the area on Wednesday evening.

"The pace with which [the campaign] has exploded has been incredible. A huge part of that has been due to the fact that we had dozens and dozens of people asking us how they can help and how they can help share the word through their networks," Subramani said. "Given the fact that we had the MIT community behind us and Rich's Startup Leadership Program, they all helped us get the word out."

People, both at MIT and elsewhere, have offered the Whalley brothers apartments to stay in, cars to borrow, and food. The Harvard School of Public Health gave Whalley and his brother an apartment to stay in while their parents are in the hospital.

"It's been a huge amount of support that the family is receiving from the community at large which has been really fantastic," Subramani said. "We'd love to just say thank you to everyone from MIT who has helped and all the larger community members. I've been

and his training kicked in almost immediately

number have been from MIT, people

really, really incredible to see strangers

who don't necessarily know the Whal-

ley family directly but feel the need to

'The kind of man and American

Bruce Mendelsohn was at a party

on the 3rd floor of 667 Boylston Street

to celebrate his brother's marathon

run. For a hundredth of a second after

the first bomb went off, Mendelsohn

finishing the marathon. But he quick-

ly realized that it was a bomb or some

sort of explosion that wasn't planned.

the room got away from the win-

flights of stairs and ran out the door.

Mendelsohn, Director of Commu-

neering Leadership Program (GEL),

was in the military from 1990 to 1993,

After making sure everyone in

I am is that I want to help when

there is danger or a crisis like

be helping out."

"I thought of the guys I worked with in law enforcement when I was in Washington DC. I thought of the students at MIT and the leadership program that I work in, and I kind of thought, well, what would they expect me to do? What would they do if they were in a similar circumstance? They would rush towards, not away," Mendelsohn said. "I thought that the kind of man and American I am is that I want to help when there is danger or a crisis like this. And I think that's really what separates us from these people, whoever they were — I have no idea, and quite frankly, I don't care, but these people, whoever they are, they want to destroy our way of life. And when we have citizens who rush in and imperil their lives, then that personifies Americans."

Mendelsohn helped tie a tourni quet on a young woman, reunited

Whalley's friends, co-worker James reading all the messages and a huge a mother and her young son, and helped people into wheelchairs. He from the incoming class of 2017 and it's helped alongside other first responders until an officer asked him to leave.

> "Now that it's all sinking in, I'm proud of what I did, but I wish I could have done more," Mendelsohn said.

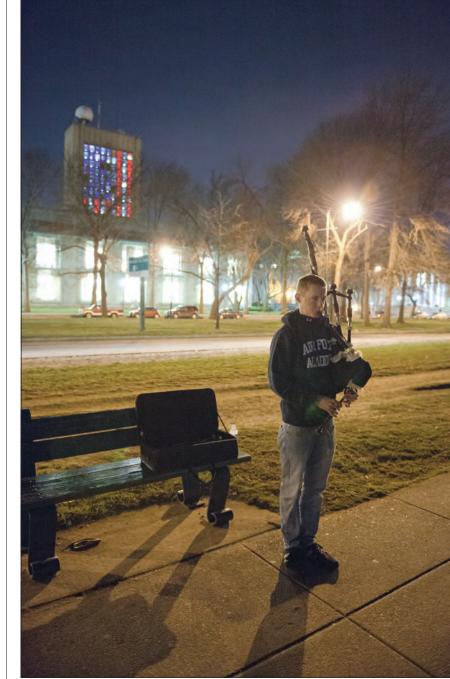
### "I know MIT will be a stronger place because we'll come together as a community to support each other."

The sun shined brightest this week on Wednesday. About 400 people gathered on Kresge Oval to reflect on the Boston Marathon and sign posters for first responders and hospitals thought it was a tribute to someone in the area. Chancellor Eric Grimson and Chaplain Robert Randolph's speeches were short, but their message was clear - they encouraged students to "move from this tragedy to making this world over." Grimson dow, Mendelsohn raced down three encouraged students to start training for next year's marathon. "If you want, you can start training now for nications for the Gordon-MIT Enginext year's Boston Marathon so that MIT has a huge contingent of runners of all shapes and sizes — some of us need it more than others. But we get out there to show that this will not change a wonderful event."

Prior to and following the speeches, hundreds of students and faculty lined up to sign table after table of posters with thanks and encouragement for first responders and hospitals in the area. "Thank you." "Peace + Love to you." "Be safe, be well, be

> VIDEO: MIT COMMUNITY GATHERS IN KRESGE OVAL AFTER Boston Marathon bombings.





"Playing the bagpipes helps me get over bad times," John Graham '16 said after he played "Amazing Grace" on the banks of the Charles River, in tribute to the victims of the Boston Marathon attacks earlier that same day. Two bombs exploded at the finish line of the Boston Marathon, killing three people and injuring



following a "reflection" held on Kresge Lawn Wednesday afternoon, members of the MIT community sign cards for hospitals and first responders to the Boston Marathon tragedy. The reflection, hosted by Students at MIT Allied for Student Health (SMASH), featured speeches by Chancellor Eric Grimson PhD '80 and Institute Chaplain Robert Randolph.







ETHAN A. SOLOMON—THE TECH Boylston St. remained blocked off Wednesday evening after Monday's bombings. Blue and yellow flowers, representing the colors of the Boston Marathon, were tucked into the barricade near a make-

Students tied well-wished messages to flowers set up by the organizers of the commemoration event held on Kresge lawn Wednesday afternoon.

# Remember "Don't Worry Be Happy"?

# Ten-time Grammy Award winning Bobby McFerrin comes to Boston

By Roberto Perez-Franco

STAFF WRITER

Bobby McFerrin is a virtuoso, and his instrument is his own windpipe and chest. He is not a powerful singer, but he is a beautiful singer. Although he practices many forms of music (directing classics, singing duets with Yo-Yo Ma's cello, etc.), he truly excels at just a few of them. The same can be said about his most recent concert in Boston. As part of a multi-city tour for his upcoming album "spirityouall", and through the felicitous auspices of the Celebrity Series of Boston, Bobby McFerrin paid a visit to Beantown last Sunday, and treated a full Symphony Hall to an afternoon of good music.

The same lack of predictability that characterizes Bobby himself is reflected in his concerts: as warned in the handout, the proposed sequence of musical pieces was just a suggestion, and in the end it was not followed to the letter. This degree of randomness, combined with the fact that the

names of some of the pieces were not announced nor were evident from the lyrics, made it difficult to know what we were listening to at any given time.

# When he is at his best, calling Bobby McFerrin just a musician seems like an injustice.

I would roughly divide the pieces of Sunday's concert — which presumably foreshadow those in the album — into three categories. The first category included all the pieces for which Bobby sat at the grand piano (like "Jesus Makes It Good"), and those closer in form to a slow ballad. These were just average at best. There was nothing particularly "Bobby" about them, since they could have been sung by anybody else just as well, and honestly I could have done

The second category included the pieces Bobby performed only vocally, away from the piano, and with a partial imprinting of his characteristic improvisational, rhythmic style to them ("Whole World" and "Wade", among others). These were better, yet not masterful.

The third category, which is where he hit the ball out of the park, included pieces that blended dirty blues, rock, and gospel ("Fix me Jesus", "25:15") and also — the crown jewel of the afternoon — Bobby's long vocal solo halfway through the concert.

The long solo was particularly noteworthy. Throughout the concert Bobby had a few short solos in the middle of songs, where he would signal to his band ("Ok, I got it now") and they would just stop playing to let him fly. Yet it was in his long vocal solo that he truly showed what makes him one of the living wonders of the musical world. It started with all his band members standing up and leaving the stage rather hastily. Bobby sat calmly in his chair, in his

**Bobby McFerrin** "spirit*you*all" 3pm Sunday, April 14 **Boston Symphony Hall** 

jeans and dark T-shirt, and everybody knew what was coming.

And he delivered. A total of three pieces were performed by Bobby alone, with no instrument but his hand drumming on his chest, and his gifted vocal cords flying up and down his prodigious four-octave range. This solo part was nothing short of magical.

When he is at his best, calling Bobby Mc-Ferrin a musician seems like an injustice. It would be better to say that he is made of music, a wholly universal expression of human joie de vivre in musical form.

# **VISUAL ARTS**

# MIT's nomadic sculpture

Retrospective on I am Mit

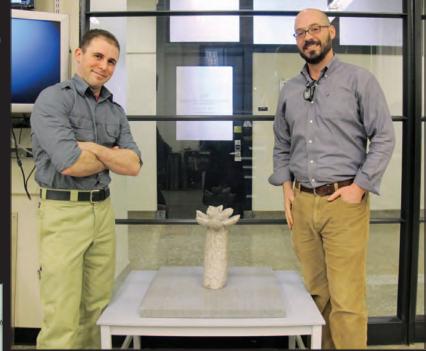
By Grace Young

Each week, for the past seven weeks, a sculpture titled "I am Mit, as I am in Mit, just like a lot of other people are" by Amalia Pica has been traveling to various places on campus, hosted by different members of the community. The 30-pound pink granite sculpture, hand-carved by Pica, is shaped like an Echevaria plant, which is known for its ability to thrive in nearly any condition.

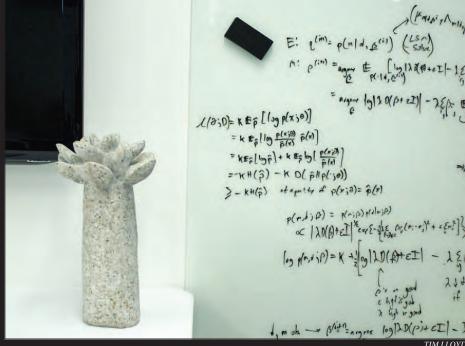
Previously the piece traveled around

the London Borough of Tower Hamlets, and was titled "I am Tower of Hamlets, as I am in Tower of Hamlets, just like a lot of other people are." Pica changes the title for every new exhibit. It was a mystery what she would name the piece during its tenure at MIT until it was unveiled at her exhibit opening at the List Visual Arts Center in

The piece explores concepts of collective memory, participatory art, and interventions into public space — all themes of Pica's solo-exhibition at the List.



Matthew S. Humbert G (left) and Michael J. Tarkanian (right) stand by the sculpture in a material science lab.



The sculpture rested in the second floor lobby of the Earth, Atmospheric, and Planetary Sciences Department.



In the Hayden Library.



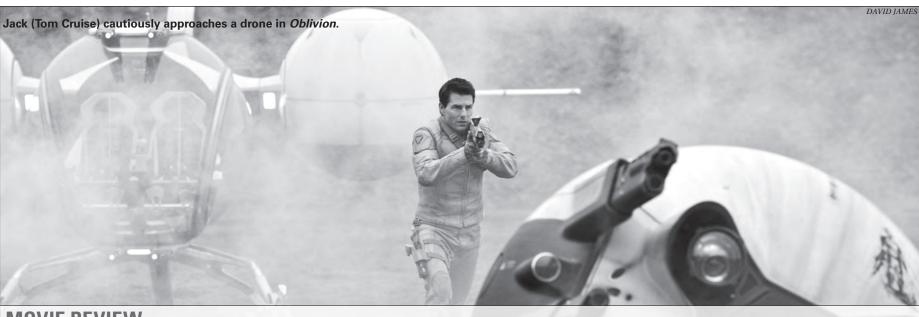
COURTNEY KLEMENS History, Theory, and Criticism of Art and Architecture students pose with the sculpture in their department offices



COURTNEY KLEMENS List Visual Arts Center preparatory John Buck installs the sculpture looking over the Media Lab atrium.

TIM LLOYD

FRIDAY, APRIL 19, 2013 THE TECH 15



**MOVIE REVIEW** 

# Post-apocalyptic escapades

Grab a bag of popcorn and get ready for some good old sci-fi action

By Roberto Perez-Franco

STAFF WRITER

Oblivion is the kind of movie that you would rather see without knowing anything about it. But why would you go see something unless you know it is good?

That's the Catch-22: to see it, your interest must be piqued — they must give away something in the trailers to entice you to the theater. Yet on the other hand, if you've seen the trailers, in my opinion you've already seen more than I would wish to have seen beforehand. I'd rather they had saved some of the details from the trailer for the theater experience, to maximize the punch. Since it is easy to spoil this movie for you, I will keep the details to a minimum, while at the same time trying to convey enough information for you to make an informed decision about whether you want to see it.

The movie takes place in the year 2077, sixty years after Earth has suffered a global-scale destructive event that renders it a lifeless wasteland. Jack Harper, played by Tom Cruise, is a sort of traveling mechanic that services the security drones that protect energy plants. For a mechanic, he lives a rather jet-set lifestyle in a squeaky clean, translucent platform over the clouds, sharing quarters with Victoria (Andrea Riseborough), a sexy redhead coworker with a British accent, who is both his boss and his lover. Jack has an über-cool flying contraption that looks like a cross between a helicopter and a dog toy, which will make many a flight aficionado drool. Jack and Vicky are alone on a desolate Earth, waiting for the two weeks that are left of their tour of duty to be over, so that they can leave and go home to outer space.

Once the premise of the movie is established, and we have been treated to plenty of eye-candy in the form of hightech touchscreen tables and the flying dog toy's acrobatics (I want one, by the way), the story starts to take life: dreams and memories start to blend with reality, the narrative starts challenging what we think we know, and things get downright weird. That is as much as I can tell you without ruining the movie for you. Twists in the plot are plausible, yet refreshing, and they hit a sweet spot in number and frequency: there are enough to keep you engaged, but not so many that they would hurt the plausibility of the narrative (remember thinking about The Game in hindsight?). Without telling you how they fit in the story, let me say that Morgan Freeman is simply magnificent and ex-Bond girl Olga Kurylenko is not bad

Oblivion is a prime sci-fi movie, with the same satisfying mix of intellectual stimulation, fantasy, and action as in Cruise's Minority Report. If you are into the sci-fi genre, you will want to see this film. The fantastic audio-visual special effects warrant coughing up the extra bucks to see this movie in the IMAX format. The story not only has plenty of futuristic fare, but it also has a good balance between romance and action, with a hint of philosophy, as the story makes you ponder the meaning of home and the nature of self. It is as original as it can be after over a century of sci-fi films. The restless mind will find connections with some predecessors, such as **★★★☆** 

Oblivion

**Directed by Joseph Kosinski** 

Starring Tom Cruise, Morgan Freeman, and Olga Kurylenko

Rated PG-13

**Now Playing** 

Moon, The Matrix, Total Recall, even The English Patient and, near the end, Episode II: Attack of the Clones. Despite the eventual déjà vu, the movie is well rounded and satisfying.

All things considered, Oblivion is a high-quality, very entertaining sci-fi movie, and it is well worth your money and time. If you like the genre, I strongly recommend it.

ALBUM REVIEW

# iamamiwhoami

# The mysterious musical project will release a new album in June

By Denis Bozic STAFF WRITER

If this is the first time you hear the oddly concatenated name iamamiwhoami, then you have missed the fascinating beginnings of an enigmatic viral internet sensation that took over Youtube in 2009. Founded by the Swedish folk singer-songwriter Jonna Lee, her producer Claes Björklund and the film director Robin Kempe-Bergman, iamamiwhoami is an audiovisual musical project with many charming peculiarities that your regular wannabe-weirdo artists never manage to deliver.

In case you are a tough nut when it you might be reluctant to believe that there is anything remotely interesting about iamamiwhoami, but you might think differently when you find out that until late 2010, fans across the world had no idea who their new favorite synth- and dream-pop star was. In other words, iamamiwhoami started as a completely anonymous and puzzling Youtube project that spread out virally and remained incognito for almost an entire year.

It all started when numerically titled videos were uploaded to iamamiwhoami's Youtube account and emailed to various music journalists. These initial videos were very short and portrayed oddly-decorated forests, eerie synth beats, snowy gravevards, human-tree hybrids and, most importantly, a mysterious woman completely painted in black, with her eyes shining distinctly under overly extended eyelashes. The pattern continued until a full-length video titled "b" was released in March 2010, which was the first concrete beginning of a mesmerizing tale.

What was the tale? Funnily enough, it's hard to tell. After "b", new one-letter videos were released in a non-random order: "o", "u-1", "u-2", "n", "t", "y", which eventually

spelled out the word "bounty". Each video was very unique and had its own story, but they all had some recurring features, which included a black cat, the female protagonist's loose dance moves, fairy tale forests, ethereal surroundings, half-naked people, and semen. For instance, in "t", the female protagonist dances completely naked on a cliff singing about new beginnings, while in "y" she frolics around a foil-covered forest guarded by trees with half-naked people inside them. The mystery was partially shattered when "t" was released - it became clear that Jonna Lee was involved in the project because her face was unveiled for the first time, and all the media's speculations of

# Musically, bounty makes dance music both intelligible and artistic.

Lady Gaga or Christina Aguilera being involved fell into oblivion. In the summer of 2011, iamamiwhoami released two singles "; john" and "clump", which were the last two tracks to be included on bounty. Instead of releasing bounty as their debut LP, they decided to first release a completely different album titled kin, which contains singles unrelated to the *bounty* storyline and notably less entertaining videos that were released sequentially in 2012. While the album was well-received by the critics, it lacked the substance that bounty will surely showcase when it is released in June.

Of course, iamamiwhoami is not all about otherworldly videos and enchanting storylines — their music is equally captivating. "b" and "u-1" are the only mediocre singles on bounty; the rest of the tracks are superb and entrancing dance songs that prove iamamiwhoami's creativity not only in the sphere of visual artistry, but in that of acoustics as well. "u-2" sounds like an ecstatic heavy-beat Crystal Castles anthem, "n" is a hypnotizing pop lullaby, and the last oneletter single "y" is an amalgam of nostalgia, mischievousness, disco rhythms and Jonna Lee's innocent voice that define this single as a covert evergreen. Musically, bounty easily achieves what many mainstream albums fail to do — it makes dance music intelligible and artistic.

Only time can tell how iamamiwhoami will develop and if it will ever become a timeless piece of culture, but *bounty* will surely be remembered as an internet treasure that won the hearts of many people across the world. Even though the charm that these singles had when they appeared online will wear off when they are released together as

\*\*\*\* bounty iamamiwhoami To whom it may concern. / Cooperative Music Scheduled Release: June 3, 2013

a physical album, they will always remain as riddling dance tunes that define their own dimension of weirdness. After all, how often do you see a video of a woman lying in veggies telling you to "sharpen your knives and clean plates for some tender?"

Highlight tracks: "o", "u-2", "n", "t", "y."



Jonna Lee of iamamiwhoami.

COURTESY OF TO WHOM IT MAY CONCERN. / COOPERATIVE MUSIC

### **VIDEO GAME REVIEW**

# Far Cry 3 is far from special

"Action shooter plus open world sandbox" combination proves average, uninspiring

By Keith Yost
STAFF WRITER

First person shooters have always been one of my favorite genres of video game. I grew up at a time when computing technology was just starting to meet the challenge of inexpensively rendering a shooter. As a kid, I was weaned on a generation of post-Doom titles, like Quake II, Counter Strike, and Team Fortress Classic, and for a time, the mere improvement of hardware was enough to keep the genre exciting. Each iteration of the first person shooter produced higher and higher graphical quality, and I didn't spend much time lamenting that the gameplay and plot of Crysis was not many steps beyond that of Goldeneye 007.

# Far Cry 3 promised a break from the standard formula. Sadly, it didn't pan out.

For at least the past five years however, I have been unfazed by advances in graphics. I really could not care less if they get better from here on out — in some ways I even prefer the simplicity of a cel-shaded game like *Borderlands* to the polished sheen of *Battlefield 3*. I may draw a distinction between *Halo* and *Halo 4*, but do I draw one between *Halo 4* and *Halo Reach?* If I do, it certainly isn't one based on the aesthetics of the games.

At this point, every fan of the twitchy, reaction-time oriented gameplay of a first person shooter must be bored of being handed a rifle, a shotgun, and some heavy

munitions, and being railroaded through predictable plots with lamely delivered dialogue. Why someone would buy the latest issue of *Medal of Honor* is as great a mystery to me as how EA Sports manages to profitably release a new Madden football game every year.

And so, it doesn't take much novelty to make me fall in love with a shooter in this innovation-starved landscape. Take, for instance, 2008's *Left 4 Dead*. By the numbers, there is little reason to hold it above any given shooter: it has four short campaigns and zero plot beyond "Zombies, run!" but in my heart I wouldn't trade it for a dozen new releases. Its unique gameplay and sense of humor make it stand out in a way that most FPS's don't.

Thus, I went into Far Cry 3 with the highest of hopes. Advertised heavily as "Skyrim with guns," Far Cry 3 promised the perfect fusion of FPS gameplay with open world sandbox design. Finally, a break from the standard formula! Sadly, it didn't pan out.

You can forget the comparisons with *Skyrim: Far Cry 3* is more akin to a version of *Just Cause 2* that traded in its *Crackdown*-esque, over-the-top, arcade-y gameplay for a *Red Dead Redemption* style character-driven plot. It's still a sandbox, but not the *Skyrim* sort. What missions exist outside of the main quest are one-offs, and most of them are the sort you'd find in *Just Cause 2* — secure this outpost, climb this tower, etc. This isn't a game with multiple, parallel story arcs, nor with meaningful choices to make on how you complete it — it's a linear game that just happens to let you slack off in between missions.

This isn't necessarily a bad thing. I wouldn't seriously mind if Ubisoft had merely created a more mature version of

*Just Cause 2*. But in this case, they get neither the gameplay nor plot right.

You play as Jason Brody, a privileged, aimless, Millennial-cum-kidnapping-victim, losing his sanity as he battles pirate/slaver warlords to free his friends on a set of remote Southeast Asian islands. The ambience is dark and heavy, but Jason's thought process is so thoroughly unrelatable that any sane person would struggle to connect with his character, and the ending of the game easily competes with *Mass Effect 3* for worst of 2012. There are a few high points with the characters Vaas and Buck, but otherwise the game is wholly forgettable.

# The game is wholly forgettable, and the gameplay itself is nothing to write home about.

Meanwhile, the gameplay itself is nothing to write home about. You'll look and feel badass as you play, but unless you have the misfortune of stumbling into a wild tiger, the game won't be much of a challenge, and won't feel different from most shooters. Far Cry 3 tries to differentiate itself by offering a skill tree you can level up through, but after putting in a couple points to get "Improved First Aid" (thus granting yourself an infinitely regenerating health bar), almost everything else is just for style. It's not as if there is a Thief Jason, a Mage Jason, and a Fighter Jason — the young Brody does it all, and despite

\*\*\*

Far Cry 3

**Ubisoft Montreal** 

Ubisoft

**Released October 2012** 

For Microsoft Windows, PlayStation 3, Xbox 360

the game's attempt at stealth gameplay, he usually does it all by running and gunning through waves of masked baddies.

The game does manage to get a lot of things right. The controls handled fine, minus a little trickiness in driving and some of the skills that get unlocked. I didn't notice any bugs. I enjoyed the diversity of missions that it offered— some of them are a little obnoxious (escort missions on an island populated solely by crazy people were never going to be a pleasant affair), but *Far Cry 3* does do a good job of delivering 20–25 hours of shooting without feeling repetitive. And of course, the graphics are amazing (though there are some serious issues with texture pop-in whenever Brody goes zip-lining).

But in the end, I see little reason to recommend this game as a good use of someone's time or money. It belongs to a set of titles so indistinguishable that one's gaming experience is complete after having played one only one.

Don't buy this game. If you have \$50 and are looking for something to put it towards, try low-expense index funds.

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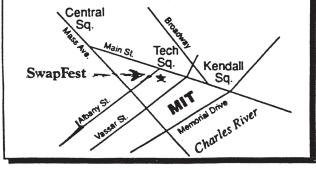
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# What's next for east campus and Kendall Square

At the faculty meeting on Wednesday, Provost Chris A. Kaiser PhD '87 announced the appointment of a new group of administrators, faculty, staff, and graduate students to make specific plans for MIT's east campus. In the next two or three months, the group will work on a "strategic vision" for a new gateway at the Kendall T stop that is hoped to be as iconic as MIT's entrance at 77 Mass. Ave. The group is also tasked with finding ways to improve Kendall Square as an "innovation cluster" and draw more retail and foot traffic to the area.

In the seven to nine months after that, according to Kaiser, the exact implementation will be worked out by professional consultants.

Kaiser's announcement comes after the Cambridge City Council's vote in favor of MIT's Kendall rezoning proposal, a formal endorsement of MIT's intentions to bring denser mixeduse development to the area.

Leading up to that vote, vocal members of the MIT community criticized the lack of faculty input in the proposal, despite assurances from administrators that the rezoning proposal would leave enough room to

address issues important to the MIT community, such as the need for graduate student housing.

But a majority of the members of the new study group are MIT faculty in the Department of Architecture and Planning or the Department of Urban Studies and Planning, a fact that anthropology professor Susan S. Silbey called "gratifying." The group is divided into two subgroups: a steering group chaired jointly by Kaiser and Executive Vice President and Treasurer Israel Ruiz SM '01, and a design group chaired by School of Architecture Dean Adèle N. Santos

The study group will also take into account the findings of the graduate student housing working group chaired by former DUSP head Phillip L. Clay PhD

"Quite honestly, I could not tell you whether we need more graduate student housing or not, looking at the data we have now," Kaiser said at the faculty meeting. But he hopes that Clay's group will shed light on the matter in their report, which is scheduled to be released this

-Leon Lin

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A random sampling of people you'll meet during a typical dinner at The Tech:

Chris, Course ${f 16}$	Austin, Course <b>8</b>	Derek, Course $oldsymbol{1}$
Anne, Course $f 17$	Ian, Course <b>9</b>	Sarah, Course ${f 2}$
Leon, Course 18	Joyce, Course ${f 10}$	Annia, Course $oldsymbol{3}$
Jack, Course 19	Sara, Course <b>11</b>	Dohyun, Course $oldsymbol{4}$
Stan, Course <b>20</b>	Vince, Course <b>12</b>	Elijah, Course ${f 5}$
Stephen, 21/CMS	Anthony, Course <b>14</b>	Deborah, Course ${\bf 6}$
Keith, Course <b>22</b>	Maggie, Course ${f 15}$	Kali, Course <b>7</b>

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# https://isn.mit.edu/internship/index.php

If you have questions about this program, or experience difficulty using the website, please contact Marlisha McDaniels, at the ISN: <a href="mailto:mmcd@mit.edu">mmcd@mit.edu</a>, 617.324.4700.

\*The Army Lab provides the intern's salary, which typically ranges from \$2280/month to \$2864/month depending on class year. Under certain circumstances the ISN can provide the intern with a supplement of up to \$1500 to defray costs of local accommodations and travel.

The mission of the MIT Institute for Soldier Nanotechnologies is to dramatically improve the protection and survivability of the Soldier and first responder through basic research and collaboration with the Army and industry.

# Coop Student Board of Directors

# Election Update

The following student Coop members are candidates for the Board of Directors for the 2013-2014 academic year.



### MIT Undergraduate Students:

Paige Finkelstein, 2014 Emma Kane, 2015 Josh Dunaway, 2014 Eric Ruleman, 2016

MIT Graduate Students: Samuel Shaner, PhD, 2015

### Harvard Undergraduate Students:

Joshua Zhang, 2014 Cody Dean, 2014 Madeleine Smith, 2016 Daniel Kramer, 2015 Monika Lutz, 2015

# Harvard Graduate Students: Oliver Hauser, PhD, 2015

Oliver Hauser, PhD, 2015 Patrick Rich, PhD, 2015 Sneh Patel, MBA, 2014

Voting Deadline is April 25



April 27th, 7pm | Morss Hall
An elegant, formal event, the 38th Annual Ebony Affair will include a cocktail hour, dinner, keynote speaker Dr. Aprille Ericsson, and live artistic and musical performances. All members of the MIT community are both welcome and encouraged to attend. Formal Attire is Required

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CARLE SECTION

April 27th, 7pm | Morss Hall
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April 23-26

TUE

# **Rep Your Crew Day**

Represent your living community, department or student group! Group pictures from 10-4 in Lobby 10

WED

# **Mismatch Day**

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THU

# **Neon Day**

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FRI

# **MIT Day**

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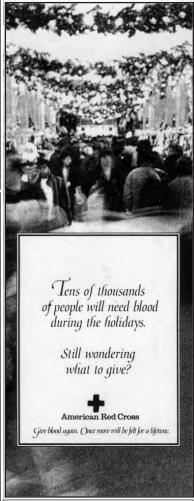
### Requirements

\*2-3 hours access to the internet weekly.

\*Must be Efficient and Dedicated

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callahanmary007@gmail.com



### **Solution to Crossword**

3	Solution to Crossword										SV	VO	r	
from page 5														
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# Solution to Sudoku

nom page 6										
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# Solution to Techdoku

		from p	page 6		
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4	2	5	3	6	1
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3	1	4	2	5	6

**ТНЕ ТЕСН** 19 FRIDAY, APRIL 19, 2013

# New officers to rebrand GSC

# Will harness student energy, take 'bottom-up' approach

By Bruno B.F. Faviero NEWS EDITOR

MIT's graduate students will see new representation this coming year in the Graduate Student Council's (GSC) officers-elect, who will take office in May: President Caleb Waugh, Vice President Alex Guo, Treasurer Parth Trivedi, and Secretary Chris Smith.

The quartet described itself as a group of GSC "outsiders." Except for Guo and Trivedi, none of the officers knew each other, and none of them had previously been a GSC officer, though Guo had been on an executive committee. The group is currently in a month-long transition period with the outgoing GSC. "There's an enormous amount of programming that we have to transition," said Waugh about the GSC's events, which include the entirety of graduate orientation. "and there's a lot of understanding about the relationships and the channels that we have for communicating graduate student needs to the administration that we need to pass on."

Waugh said that the group has outlined three major goals for the next year — rebranding the GSC and increasing its publicity efforts, tapping into the ideas and energy of students, and influencing developments in Kendall Square.

### Rebranding

In representing all 6,700 of MIT's graduate students for the next year, one of the GSC-elects' goals is to turn to the student body for ideas

'We feel strongly that the most valuable asset that MIT has is innovative, entrepreneurial students that are excited to do new and different things," said Waugh, "the solutions we need are at the bottom with students that want to do things.

Waugh hopes that students will be entrepreneurial in the sense of coming up with ideas for events and activities that the GSC can support with resources like the funding board. Last year, the funding board allocated over \$130,000 to activities and student groups. "It's important to have a bottomup approach," said Guo. "... Not a top-down, bureaucratic, solutionscome-from-the-top approach," added Waugh.

The challenges they see include reaching all the students, given that they are dispersed across different departments and living areas. Nevertheless, the executive officers hope to create communication channels to make students comfortable with coming to the GSC with ideas. Smith said the GSC hopes to maximize publicity and engage students on fronts like social and print media. The GSC has a Facebook group, but it currently has only 476 likes, and its last tweet was on Feb. 6 of this

"[Publicity] is a constant challenge for the GSC, and we want to make sure that we're working on it," said Smith. "It's both high-tech and smart deployment of lowtech, more personal methods." Smith added, "It could be something as simple as holding events off-campus that make it easier for off-campus [students] to attend."

The executive officers also recently met with the co-presidents of the Sloan senate, the representational body for Sloan graduate students, in an attempt to establish closer relations.

"We're trying to have all five [Sloan] spots filled so we can know what they care about and how we can help them," said Guo, referencing Sloan's five spots on the GSC general council, which contains representatives from every department and dorm, and off-campus representatives.

### "We've got big shoes to fill"

Waugh said that in terms of impact, last year's GSC was incredibly successful. Headed by Brian Spatocco G, the GSC piloted a new childcare program and began to collaborate more with the Undergraduate Association (UA), releasing a joint vision last May. Waugh said that this GSC hopes to continue working on those issues, having recently met with Sidhanth P. Rao '14 and Devin T. Cornish '14 — the UA President- and Vice Presidentelect — to discuss how the UA and GSC might work together in the coming year. Waugh mentioned that the collaboration might include the formation of a grad/undergrad mentorship program of some sort.

However, said Waugh, "If there was one thing we would want to be involved with in the next year and be able to influence, [Kendall Square] would probably be one." Waugh said that last year's GSC was very involved in the Kendall development and with the City of Cambridge, and that a lot of the work in the coming year will be understanding how the Kendall and MIT 2030 redevelopment programs will affect graduate students.

Overall, though, "no revolutions," said Waugh about their plans. "[We'll be] focusing on entrepreneurial students, helping people do what they want to do."



Vice President-elect Alex Guo is Secretary-elect Chris Smith is a third-year PhD student in EECS, a first-year PhD student in the and received her B.S. from UC Department of Urban Studies Berkeley. "I think it's a responsibility and Planning, and received his for us to have built a brand and en- SB from MIT. "What leads me to gage more students so they know be involved is just a basic impulse what we do and help us do it better" to serve"





President-elect Caleb Waugh is a Treasurer-elect Parth Trivedi is fifth-year MsC student in Nuclear a first-year S.M. candidate in Science and Engineering. "The in- Aero/Astro and received a B.S. stitute is so responsive to our input from Purdue. "I think serving the and needs. The GSC can make enor- community is a fundamental remous impact, and it can be used for sponsibility and I have always tried a lot of good on behalf of students." to maintain that wherever I go."



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20 THE TECH FRIDAY, APRIL 19, 2013

# Afghan criticizes CIA airstrike

President Karzai speaks on actions of secret militias

**By Rod Nordland** THE NEW YORK TIMES

KABUL, Afghanistan — The spokesman for President Hamid Karzai said Thursday that the CIA was responsible for calling in an airstrike on April 7 that left 17 Afghan civilians dead, 12 of them children, and that the secret Afghan militias that the agency controls behaved as if they were "responsible to no one."

"It was a CIA operation using a security structure that was in full service of the CIA and run by the CIA," said the spokesman, Aimal Faizi, who said his remarks reflected the views of the Afghan president. Faizi also criticized the agency and U.S. Special Operations troops for running numerous similar militias elsewhere in Afghanistan, with similar problems.

The criticism from Faizi and other Afghan officials pulled aside a curtain on a clandestine operation that went badly awry in the rugged mountains of eastern Kunar province, killing an American CIA employee and seriously wounding three other Americans working for the agency. The American who died had been in charge of a group of undercover paramilitaries known as the 0-4 Unit, a Counterterrorist Pursuit Team, according to Afghan investigators.

Afghan reaction to the episode challenges the core assumptions in negotiations with the Afghan government about the nature of the U.S. presence in Afghanistan after 2014. The military wants a mission with two main goals: training Afghan forces and conducting counterterrorism raids against groups like al-Qaida. Special Operations forces and irregular forces like the militias run by the CIA are a crucial part of the effort, U.S. officials say.

But Karzai has been deeply suspicious about the activity of irregular forces in his country, and in March he banned U.S. Special Operations forces from operating in Wardak province. Now, the CIA is the focus of his ire.

A spokesman for the CIA would not comment about the case.

A spokesman for the U.S. military, Col. Thomas Collins, declined to comment on the raid in Kunar province or to discuss the military's investigation into it. He said only that the operation was run by the National Directorate of Security, the Afghan intelligence

'There was a battle going on, this NDS unit was under grave pressure," Collins said. "But as to what caused the civilian casualties, that's still under investigation."

Faizi said that after Karzai received a report from his own investigation, he fired the head of the National Directorate of Security in Kunar province, whom others identified as Gen. Saadullah. (He uses only one name.)

But Faizi said the 0-4 Unit, a roughly 1,200-member force, was

not truly under the control of the Afghan security agency, asserting instead that U.S. intelligence officials were solely responsible for the unit. "It was a joint op at most in name," he said, "but really in fact a CIA-run parallel security structure, and such structures have been a factor of insecurity themselves."

Faizi said Karzai had ordered a review throughout the country of all Counterterrorist Pursuit Teams. which are mostly used in the east and the south, and of similar irregular forces run by the CIA or by U.S. Special Operations units.

"We are informed five minutes before they are conducting an operation," Faizi said, "and our security agencies do not have authority over them."

A U.S. official familiar with the events disagreed with that characterization. "The Afghan unit involved in this prolonged firefight with the Taliban was under Afghan government control - rumors of a rogue unit or Americans commanding the team reflect internal power struggles in Kabul," the official said, speaking on the condition of anonymity.

Details about the fighting in Kunar were scant in the days afterward. Karzai appointed a delegation to go there and investigate, and he later said he blamed both the Taliban and international forces for causing the civilian deaths, although at the time he did not mention the CIA by name.

# **Campus shooting** shocks community

Standoff continues in Watertown

Shooting, from Page 1

At 1:07 a.m., a second person was apprehended and held prone at gunpoint while officials — and possibly robots — scanned the area around him for explosives. As information propagated between the various police departments and across several channels of communication, it became clear that this second person was not the suspect they were looking for and the manhunt resumed.

Evidence, including motor vehicles and explosive devices, has been located at the scene. However, the second suspect remains at large as of press time. A "strong perimeter" has been established around the surrounding Watertown blocks, and officers are planning to conduct house-to-house searches with the aid of police dogs in the morning.

Links between the three events – the MIT shooting, the carjacking, and the violence in Watertown were unconfirmed for most of the night. In a statement to The Boston Globe, Massachusetts State Police spokesman David Procopio said that the shooting at MIT and the events in Watertown seem appeared to be connected.

Questions about connections to the Boston Marathon Bombings have of course pervaded discus-

sions and reporting. Boston Police Commissioner Davis has reported that the suspect at large is believed to be the second suspect in the Boston Marathon Bombings. It has now been confirmed that these suspects are the same as the marathon bombing suspects.

The campus response to the evening's horrors has been one of hope and support. Similar to Monday, many have reached out to confirm friends are safe and aware of the events, as MIT mailing lists overflowed with constant updates. At 5:10 a.m., an email sent to the entire campus from Israel Ruiz and Eric Grimson cancelled Friday classes, saying, "The officer gave his life to defend the peace of our campus. His sacrifice will never be forgotten by the Institute."

An email from Stephanie Birkhimer '14 circulated on dormitory mailing lists: "I'm wearing black tomorrow in memory of the MIT officer who was killed tonight, and I invite you all to do the same. That could have easily been any one of us, and I'd like to show some respect to him for protecting us, and mourn the loss of a member of our community." Students across campus have pledged to do

Joanna Kao, Ethan A. Solomon, and Ian M. Gorodisher contributed

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**22** The Tech FRIDAY, APRIL 19, 2013

# In Between

A One Man **Show by Ibrahim Miari** 

Bartos Theater — E15-070 Wed. 4/24/13, 7:30-9:00pm Doors open at 7:00 Dessert to follow. All are welcome.

Semi-autobiographical, In Between portrays the complexities and contradictions of a Palestinian-Israeli identity. On the precipice between two cultures stands Ibrahim Miari. He recalls his childhood in Acco, memories of his Jewish and Palestinian grandmothers, of war, and of the struggle to shape and understand his own multi-faceted identity as he is interrogated by Israeli police and contemplates marriage to a Jewish American woman.





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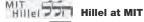
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**Technology and Culture Forum** 

# Biology department creates 6-7 MEng with EECS, new GIR classes

At the April faculty meeting on Wednesday afternoon, members of the faculty voted unanimously to introduce two new expansions to MIT's biology program.

The first motion created a new Master of Engineering (MEng) Degree in Computer Science and Molecular Biology (Course 6-7). Professor Freeman said that by allowing 6-7 students continue their studies at a graduate level, the new degree would open up both professional and academic opportunities for those pursuing a career in the burgeoning intersection of the two disciplines.

MIT currently offers MEng degrees in Biomedical Engineering, Civil and Environmental Engineering, Electrical Engineering and Computer Science (EECS), Logistics (from the Engineering Systems Division), and Manufacturing (from the Department of Mechanical Engineering). The MEng program in EECS is by far the most popular, with over half of the graduating class of EECS seniors every year entering the program and successfully completing it, according to the EECS website.

The second motion adds the new classes 7.015 and 7.016 as options for satisfying the biology GIR requirement in the Fall in addition to the current 7.012 course. 7.015 is meant to be the

biology department's version of 5.112 (Introductory Chemistry) and 8.012 (Physics I) - a more advanced introductory course for students with strong biology backgrounds in high school. 7.016 will focus on biochemistry alongside the basics of the biology curriculum. The other two flavors of Introductory Biology, 7.013 and 7.014, will still be offered only in the Spring.

All five Introductory Biology classes (7.012, 7.013, 7.014, 7.015, and 7.016) share a core biology curriculum that makes up about half of each course's syllabus. The other half in each course is class-specific. MIT's subject listing currently describes 7.012 as focusing more on genetic approaches to biology, 7.013 as focusing on neurobiology and development, and 7.014 as focusing on ecology and biogeochemical

Part of the reason 7.015 and 7.016 are being introduced is to alleviate the pressure on the popular 7.012 class, which had 835 students in the fall of 2012. For reference, at the end of Spring 2012, there were 322 students in 7.013 and 132 students in 7.014, according to the reported number of students eligible to respond to the online subject evaluations for each course.

Leon contributed reporting.

—Stan Gill



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# Know something important we should write about?

(We probably don't know about it.)

Let us know.

news@tech.mit.edu

# Triathlon competes at Nationals

# MIT's club team sent four to Arizona last weekend

**By Sam Nicaise** and Sarah Weir

TEAM REPRESENTATIVES

On Saturday, April 13, four MIT triathlon club athletes competed in the USAT Collegiate National Championship in Tempe, Arizona. The event was like none other there were over 1000 athletes from 108 schools from around the country who were excited, nervous, and exhilarated all at the same time. For the MIT club, most races occur during the summer and fall against other northeast collegiate teams, so an early-season April race was a great way to kick off the local season.

On Thursday, when it was 37 degrees and raining in Boston, Tempe reached 90 degrees and the sun never stopped shining. The weather stayed constant for Saturday, when the team had their competition. This was an Olympic distance race,

which means it consisted of a 1.5 kilometer swim followed by a 40 kilometer bike and a 10 kilometer run. The swim was a rectangular course in Tempe Town Lake, the questionably clean watershed in downtown Tempe, and the run was a bridge loop around the same lake.

At 5:30 a.m. on Saturday morning, the transition area opened up, meaning athletes could set up their cycling and running shoes, socks, in-race fuel, and anything else they needed to switch from the swim to the bike and the bike to the run. After a quick warm-up in the lake, the first men's wave, which included Mitchell David Hsing G and Sam Nicaise G, started at 7:30 a.m. Ten minutes later, Akansh N. Murthy '13 started as part of the men's second wave. It wasn't too hot yet when the men started, but the 67 degree water still felt refreshing. Hsing was first

out of the water for MIT, and had a quick transition before the bike leg. The bike course consisted of two identical laps around the lake and surrounding areas. It was a fast course, with gradual hills and lots of corners.

The running course was similar to a Charles bridge loop, but without any shade. The MIT men all braced the heat and injuries to finish the race intact and in good standing. Hsing led MIT with a time of 2:13.29, Nicaise was close behind in 2:14.06, and Murthy finished in 2:35.14.

The women's race didn't begin until 11 a.m. and included Sarah A. Weir '14, a Tech sports editor, who started in the second women's wave, and finished in 2:43.24.

Not surprisingly, teams from Colorado and California dominated the team titles. The fastest man, from hometown Arizona State University, finished in



Four athletes from the MIT triathlon team competed last weekend at the Collegiate National Championship in Tempe, Arizona. From left to right, the teammates are Mitchell David Hsing G, Sarah A. Weir '14 (a *Tech* sports editor), Sam Nicaise G, and Akansh N. Murthy '13.

1:46:36. The fastest woman, from Colorado, finished in 2:01:13.

Although it was hot and not everyone from MIT wore enough sunscreen, no one can deny how amazing the race was. The energy from having so many schools all in one place, cheering for each other, excited about triathlons probably won't be replicated until the next Collegiate Nationals, which will occur next April, again in Tempe. This was the first Collegiate Nationals competition for Hsing, Murthy, and Weir, while Nicaise returned as a third-time competitor.

The next race for the MIT triathlon team is the New England Season Opener on May 12. Unlike Tempe, the temperature will be about 30 degrees lower, and the water promises to be barely warm enough to

Keep your eyes on triathlon.mit. edu for updates throughout the summer season.

# **UPCOMING HOME EVENTS**

### Friday, April 19

Baseball vs. Wheaton College 3:30 p.m., Briggs Field Women's tennis vs. Middlebury College

5 p.m., DuPont Tennis Courts

### Saturday, April 20

Track and field vs. MIT Spring Invitational

12 p.m., Steinbrenner Stadium

Women's openweight crew vs. UMass, Wellesley

TBD, Charles River

Women's lightweight crew vs. Stanford, Boston University

Sailing vs. Tech Invitational Sailing vs. Priddy Trophy

Softball vs. WPI

TBD, Charles River 10 a.m., Charles River 10:15 a.m., Charles River 12 p.m., Briggs Field

# **SPORTS SHORT**

# Men's track and field wins home meet

At its second home meet in the past two weeks, the MIT men's out-

> door track and field team finished in first place with 246.5 points. Bates College was close behind in second place with 229, the University of Southern Maine was

third with 115.5 and Colby College was fourth with 85 points.

Tyler S. Singer-Clark '14 kicked the meet off with first place finishes in the 100 meter with a time of 11.06 and the 200 meter in 21.93. States Lee '16 came second in the 200 meter in

MIT dominated the 400 meter race, taking six of the top eight spots. Derek C. Barnes '16 and Lee tied for first with a time of 48.84, while Patrick K. Marx '13 was third in 49.32. Nick A. Diamantoni '15 was fifth in 50.73, Brian M. Gager '14 was seventh with a 51.06 and Daniel J. Ronde '13 came in eighth with a time of 52.17.

In the 5,000 meter, Matthew G. Jordan '15 was second with a time of 15:12.00, Kyle J. Hannon '13 was third in 15:19.00 and Allen K. Leung '15 finished fourth in 15:19.34. Michael S. Kaba was first in the 400 meter hurdles with a time of 54.58.

MIT won both the 4x100 and the 4x400 relays. In the 4x100, Michael J. DuPlessis '14, Kaba, Lee and Singer-Clark crossed the line in 42.60, just a tenth of a second ahead of Southern Maine's relay. In the 4x400, Kaba,

Marx, Ronde and Singer-Clark finished with a time of 3:17.03, leaving a gap of over four seconds between them and Southern Maine's relay.

Adrian C. Samsel '16 kicked off the field events with a second place finish in the high jump with a jump of 1.88 meters. He was followed by John B. Thomas '15 and Matthew D. Falk G in third and fourth, both with jumps of 1.83 meters. Cyrus Vafadari '13 won the pole vault in 4.60 meters. David C. Motley '15 was second in the long jump with 6.37 meters and first in the triple jump with a jump of 13.47 meters. Angel S. Echevarria '16 finished directly after him in the triple jump with a jump of 13.31 meters.

MIT will return to action today, traveling to Princeton, N.J. for the Larry Ellis Invitational.

-Charlotte Brackett



24 THE TECH FRIDAY, APRIL 19, 2013

# Wrestling team wins Division II tournament

Sam Shames '14 finished an undefeated season by winning his weight class

**By Carlos Greaves** 

SPORTS STAFF

This past March the MIT Men's Wrestling team finished off a historic season by winning the NCWA Division II Tournament. The title was the second in the history of the program after the

team's title in 2010.

Six wrestlers qualified for the tournament, led by team captains Ryan J. Madson '13 and Samuel W. Shames '14. Madson finished fourth in the tournament in his weight class,

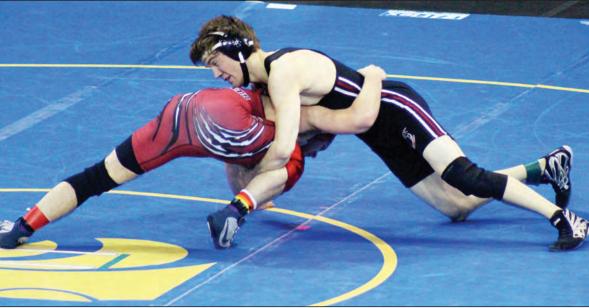
and became the first four-time All-American wrestler at MIT. He currently holds the MIT record for career wins with 145, and ranks third all-time in career wins in the NCWA. Shames finished 31-0 this season, and won the national title in his weight class, becoming just the second wrestler in MIT history to do so. Sam is a three-time All-American as a junior, and currently has a record of 103 wins and 8 losses.

Also competing at the tournament were Bee Vang '13, making his fourth appearance at the tournament, and Tyler C. Laprade '13, Lawrence A. Chan '16, and Max L. Powers '13, who each made their first appearance. In addition, head coach Tom Layte, who has been the MIT head coach for the past 12 years, was named NCWA Coach of the Year.

The team began the 2013 season at the NCWA national duals, followed by the MIT Classic, which was the first home event for the wrestling team in four years. Next the team competed at the NEC championships where the team finished fourth. Shortly thereafter, the team finished second at the NCWA Northeast Conference Championship. At this event, six of the seven wrestlers competing for MIT finished in the top five of their weight classes, thus qualifying them for the national tournament.

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This season marks the 100th anniversary of wrestling at MIT, making the win that much more memorable. Several of the coaches and team members have provided quotes about what this season has meant to them.



LINDA MADSON

Ryan J. Madson '13 tries to lock up a cradle and score a takedown. Madson won this match with a score of 14-1.

"This past season has been the most fun I have ever had wrestling. Not only did I achieve my personal goal and become a national champion, but I had so much fun practicing and competing with my teammates and coaches. As a team we all experience highs and lows, but these ups and downs only serve to bring us closer together. All the hard work we put in binds us together and we end up just as much of a family as a team. Winning Nationals as a team only serves to validate the hard work and effort which every individual on the team invests. As a captain, it is inspiring to see

everyone at practice every day giving maximum effort, not only to make themselves better but also their teammates. Without work out partners who consistently pushed me, I would not have achieved my goals, and without teammates who pushed each other, our team would not have won Nationals.

I would also like to take the time to thank the entire coaching staff for all their work the entire season. Having coaches who are so deeply invested in our success means the world to us as competitors. Knowing that our coaches are committed to making us the best possible wres-

tlers is reassuring as an athlete. All of our coaches have dedicated so much time and energy into each individual on the team that more than anything else our success reflects their hard work and dedication. Individually, I would not have achieved my goals this year without the culmination of three years worth of coaching. The reason we were so successful as a team is because our coaches help us to work harder and smarter than any other team in the country. The fact that our coach won National Coach of the Year demonstrates just how great a job he is doing.'

Sam Shames

"I have been coaching at MIT since 1999. This year's team is the best team I have coached since coming here. The reason is because every guy on the team was committed and made wrestling a priority. They did everything that was asked of them and always gave their maximum effort. Our philosophy is to be relentless and always pressure your opponent. In order to wrestle this style you need to be in great shape. Not all teams can wrestle this way because they do not work as hard as we do. Our practices are extremely intense and are designed to push them past their limit. This helps them become mentally stronger and teaches them about how to push through the wall

of fatigue and get themselves to the next level. The great thing is this also helps them in their everyday life, especially when they have a difficult task at hand. Two of my favorite quotes are "once you have wrestled, everything else is easy" and "anyone can play a sport, but not everyone can wrestle". This sport demands all of your mental and physical strength all the time. Every day you step on the mat, your opponent is trying to break your will. The team has bought into this philosophy and this is why we won the NCWA Division 2 national team title and why Sam Shames won an individual national title while becoming MIT's first wrestler to have an undefeated season going 31-0.

It is extremely difficult to study at MIT and be successful in wrestling. However, for Ryan Madson and Bee Vang it was not. Both of these young men have been on the team and have been the leaders for the past 4 years. They are the epitome of what a student-athlete is. They always made wrestling a priority, never missed a practice or meet and this is why they had the success that they did. Bee was a 4-time NCWA national qualifier and Ryan is the first wrestler at MIT to become a 4-time NCWA All-American. These two young men are great leaders and will be very successful in anything they do. This is why I coach."

—Tom Layte

"I am a graduating senior and I've been part of the team for the past four years. The wrestling team is like an extended family to me. It is a place where I can remove myself from the rigorous and demanding academics of MIT and just focus on myself. It was two hours in the day where I knew I didn't have to work or think about MIT. It was two hours where I work to improve my mental and physical health through wrestling. Through wrestling, I learned about work ethic, perseverance, and character. Imagine someone at the brink of exhaustion and then asking them to push themselves for another minute, another second. Many people will give up and back down, but this is what a wrestler deals with everyday. And through this struggle, a person learns about him/her-self."

—Bee Vang

# **ATHLETE OF THE WEEK: RYAN J. MADSON '13**

# Senior is MIT's first fourtime All-American wrestler

# Madson balances athletics with Course 2 studies

By Shelley Ackerman SENIOR EDITOR

Ryan J. Madson '13, co-captain of the MIT Wrestling team, made program history this season, becoming the first fourtime All-American for MIT. He is currently ranked third overall in the National Collegiate Wrestling Association's (NCWA) rankings, finishing seasons in fourth place as a freshman, second as a sophomore, third as a junior, and fourth in his final season.

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Now in his final semester in Mechanical Engineering (Course 2), Madson has found a good balance between the academic rigor of MIT and training as a competitive athlete. "Wrestling is a demanding sport, and MIT is a demanding school. Balancing the two was difficult at first, but after some time I was able to figure out how much work was needed to be successful," said Madson. "Wrestling was also a good change of pace from the constant load of schoolwork during the semester." He spends most days focusing on studying and problem sets, fitting in daily workouts during the off-season and wrestling practices during the season along with some time to relax.

A Minnesota native, Madson joined the sport kindergarten partly because of its popularity. His father was a wrestler in high school and coached him during his early years in the sport. Although MIT cut the sport from

the varsity program, he chose to stick with the team as it made the transition to club status.

"It feels pretty good" to be the first All-American in MIT wrestling history, said Madson. "I never would have guessed my freshman year when they cut the team that I would be able to make my mark at MIT in this manner."

Madson credits the coaches who remained with the team after it was cut from the varsity program and his teammates for contributing to his success. "The wrestling team has been my family away from home," he said. "Trips with them to Nationals and other tournaments are by far some of the most memorable times of my MIT career."



**Ryan J. Madson '13 finished fourth** in his final national competition.